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ABSTRACT

This book presents those facilities that best meet the needs of contemporary middle school programs by allowing: teaming; an integration of curriculum initiatives; block scheduling; and an increased focus on such areas as advanced technology, physical fitness and wellness, and consumer science. It documents how the buildings can contribute to the learning process, based on the experiences of nearly 200 middle school administrators, teachers, students, and community members, by providing their insights, ideas, and concerns regarding the role of the school building in successfully reaching students. (GR)

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IDDLE SCHOOL STUDENTS
HAVE MOVED INTO A CRETCAL
PHASE IN THE REDUCATIONAL
DEVELOPMENTS REACHING AN
AGE WHEN MANY CHILDREN
BEGOS TO ENVISION CAREER
POTENTIAL AND BRIGHT
EUTOPES. FOR TEACHERS.

CHALLENGE ADDRESSING ENGINEER PHYTICAL AND SOCIAL DEVELOPMENT PROJES AS WELL AS ACADEMIC NEEDS

FACINITY DESIGN IS CRETICAL TO THE SUCCESS.

OF THE EDUCATIONAL PROCRAM AT THE MIDDLE SCHOOL LEVEL. THOSE FACILITIES THAT BEST MEET THE NEEDS OF CONTEMPORARY MIDDLE SCHOOL PROGRAMS. ENCOMPASSING TEAMING: INTEGRATED GUPRICULUM INITIATIVES; BLOCK SCHEDULING; AND AN INCREASED FOCUS ON SUCH AREAS AS ADVANCED TECHNOLOGY, PHYSICAL FITNESS AND WELLIESS, AND CONSUMER SCIENCE... ARE FLEXIBLE, WELL-PLANSED BUILDINGS THAT ADDRESS STUDENT NEEDS AND ENHANCE, THE LEARNING PROCESS.

FANNING/HÓWEY ASSOCIATES, INC. A NATIONAL LEADER IN SCHOOL PLANNING AND DESIGN.

EXPLORED THE IMPACT OF THE MIDDLE SCHOOL ENVIRONMENT ON THE DUALITY OF LEARNING WITH NEARLY 200 ADMINISTRATORS, TEACHERS, STUDENTS, AND COMMUNITY MEMBERS, SHAPING THE FUTURE: MIDDLE SCHOOLS SHARES THEIR INSIGHTS, IDEAS AND CONCERNS—AND DOCUMENTS THE IMPORTANT ROLE OF THE SCHOOL BUILDING. IN SUCCESSEULEY REACHING STUDENTS AT THE CRITICAL AGE

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Associates Inc

MIDDLE SCHOOLS

Fanning/Howey Associates,Inc.

IMPACT ON EDUCATION SERIES

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This book is dedicated to middle school students in celebration of their curiosity; energy; and spirit.



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SHAPING THE FUTURE

Middle Schools

Notes and Acknowledgments	4
Foreword	8
Introduction	11
Chapter One: The Morning Scramble	13
Chapter Two: Leapin' Lizards, Raptors, and the Brainy Bunch	27
Chapter Three: Rocks, Roller Coasters, and the Stock Market	39
Chapter Four: Time To Eat, Shop, and Play	57
Chapter Five: Building Bridgesand Making a Home	69
Chapter Six: Lessons for Life	87
Chapter Seven: Creative Expression	99
Chapter Eight: After School	115
Appendix	125
Credits	128

SHAPING THE FUTURE

Middle Schools

We would like to thank the many school administrators, teachers, parents, students, and community members who assisted us in the research and development of *Shaping The Future: Middle Schools*. In publishing our series of books on the impact of facility design on the quality of education, we have talked with hundreds of people who have shared their insights and experiences regarding school buildings—including nearly 200 for this book. We hope that their observations and comments, along with our own experience in working with school districts, will be helpful to all who read this.

In particular, we would like to thank the participants of our focus groups:

1 . .

Metropolitan School District of Pike Township

Lincoln Middle School; Indianapolis, Indiana February 2, 1998

Bill Gigowski, Seventh-Grade Student
Ryan Gralia, Sixth-Grade Student
Heather Guzman, Seventh-Grade Student
Doug Kriech, Seventh-Grade Student
Ashley Magee, Seventh-Grade Student
Aubrey Mullins, Seventh-Grade Student
Sabrina Patterson, Sixth-Grade Student
Nathaniel Patty, Sixth-Grade Student
Erica Lynne Starks, Sixth-Grade Student
Trey Winfrey, Seventh-Grade Student
Steven Andzer, Sixth-Grade Teacher
Deborah Crutchfield, Sixth-Grade Teacher
Karlyn Fox, Sixth-Grade Teacher

Deb Hornaday, Sixth-Grade Teacher
Janet Karsas, Sixth-Grade Teacher
Debbie Meloy, Sixth-Grade Teacher
Andy Ohmer, Sixth-Grade Teacher
Leila Peters, Sixth-Grade Teacher
Jennifer Powers, Sixth-Grade Teacher
Maggie Rice, Sixth-Grade Teacher
Susan Sanders, Sixth-Grade Teacher
Virgil Taueg, Principal
Kathryn Vetarbo, Student Teacher

South Vermillion Community School Corporation

South Vermillion Middle School; Clinton, Indiana February 3, 1998

Connie Adams, Eighth-Grade Teacher

4

Kim Bruce, Life Skills Teacher

David Harris, Principal

Charles Jackson, Seventh-Grade Teacher

Dale Orman, Art Teacher

Linda Underwood, Counselor

Linda Whiteman, Eighth-Grade Teacher

Aptakisic-Tripp Community Consolidated School District No. 102

Meridian Middle School; Buffalo Grove, Illinois February 3, 1998

Max Chiswick, Sixth-Grade Student
Timmy Chmielewski, Fifth-Grade Student
Andrew Conner, Fifth-Grade Student
Jenna Green, Fifth-Grade Student
Stefanie Herst, Sixth-Grade Student
Samantha LeVine, Sixth-Grade Student
Blair Lewin, Sixth-Grade Student
Ian Ludwig, Fifth-Grade Student
Jeremy Rose, Sixth-Grade Student
Brittany Sarmas, Fifth-Grade Student
Alex Yastrow, Fifth-Grade Student
Barbara Young, Fifth-Grade Student
Jan Benkoske, Art Teacher
Sharon Borg, Sixth-Grade Teacher
Sherrie Cummins, Fifth-Grade Teacher



Students at Meridian Middle School in Buffulo Grove, Illinois, were among focus group participants for Shaping The Future: Middle Schools.

Wendy Friedman, Fifth-Grade Teacher
Susan Mann, Principal
Barry Nagle, Sixth-Grade Teacher
Cathy Rosen, Adapted P.E. Teacher
Debbie Roycroft, Sixth-Grade Teacher
Jean Sweeney, Student Success
Coordinator
MaryJo Taylor, Media Center Director
Marianne Todd, Building Secretary
Mike Williams, Technology Director

Penn-Harris-Madison School Corporation

Discovery Middle School; Granger, Indiana February 4, 1998

Eddie Beebe, Seventh-Grade Student

SHAPING THE FUTURE

Middle Schools

Teddy Bradley, Seventh-Grade Student Jillian Frick, Eighth-Grade Student Nancy LaDuke, Seventh-Grade Student Michelle Long, Seventh-Grade Student Colette Miller, Sixth-Grade Student Amanda Piekarski, Sixth-Grade Student Chad Rajski, Eighth-Grade Student Tim Braunsdorf, Seventh-Grade Teacher Sheryll Harper, Principal Diane Keller, Media Specialist Jim Pattison, Tech Aide Matt Reininga, Sixth-Grade Teacher Jon Robinson, Head Custodian Chuck Sowders, Seventh-Grade Teacher Mitzie Thornton, Seventh-Grade Substitute Teacher

Sheila Toth, Fitness Teacher

Elaine Truex, Secretary

Keely Twibell, Seventh-Grade Teacher

Metropolitan School District of Steuben County

Angola Middle School; Angola, Indiana February 4, 1998

Wes Bickford, Seventh-Grade Student Boyd Jackson, Sixth-Grade Student Ruben Ryan, Seventh-Grade Student Leah Seevers, Eighth-Grade Student
Chelsea Thiebaut, Eighth-Grade Student
Beau Vincent, Sixth-Grade Student
Beth Weber, Eighth-Grade Student
Paul Beckwith, Seventh-Grade Teacher
Bill Church, Principal
Deborah Gilbert, Eighth-Grade Teacher
Dean Harter, Sixth-Grade Teacher
Gary Kearney, Seventh-Grade Teacher
Joe Kennedy, Eighth-Grade Teacher
David McKinney, Health Teacher
Brant Moore, Music Teacher
Mark Ridenour, Assistant Principal/Athletic
Director
Penny Snyder, Sixth-Grade Teacher

Medina City Schools

A.I. Root Middle School; Medina, Ohio February 12, 1998

Jeremy Abraham, Eighth-Grade Student
Whitney Byrd, Eighth-Grade Student
Megan Flanagan, Eighth-Grade Student
Jon Hanwell, Eighth-Grade Student
Debbie Bock, Home Economics Teacher
Tess Ewart, Eighth-Grade Teacher
Jane Langol, Aide, Handicapped Program
Tom McKenna, Principal

Notes and Acknowledgments

Mike Pallini, Associate Principal Tonya Stanfar, Consulting Teacher Barb Steingass, Media Specialist Sheila Chenard, Eighth-Grade Teacher
Michael Eckhoff, Assistant Director,
Design & Construction; Fairfax County
Public Schools

Fairfax County Public Schools

Edgar Allan Poe Middle School;

Annandale, Virginia February 19, 1998 June Monterio, *Principal*Louise Morello, *Eighth-Grade Teacher and*

Bill Hirst, Seventh-Grade Teacher

Betsy Lockman, Sixth-Grade Teacher

Department Chair

Mary Artz, Eighth-Grade Teacher

James Shepherd, Seventh-Grade Teacher



A special *thank you* goes to Joy Kelly at Edgar Allan Poe Middle School, who helped us in more ways than we can count—including coordinating the photography of the Poe students who appear in the chapter title pages and throughout the book.

SHAPING THE FUTURE Middle Schools

Architecture is both a technology and an art. It must meet both instrumental and aesthetic needs. A building must be useful for the purpose for which it is designed as well as attractive to those who enter it and even to those who just drive by.

When designing a school, an architect and his or her clients (the school system) must have in mind the needs of the instructional program and the other needs (for security and management, for instance) of operating a middle school today and in the future. These needs are many and detailed, including such things as locker placement; proximity of classrooms, labs, and libraries; wiring for technology; and cafeteria/auditorium design. But the entire design also needs to work as a whole—as an environment in which the instructional program works for youngsters, teachers, and others in the school. Neither the details nor the whole can dominate the design.

Middle schools offer a special challenge to architects. The students who attend these schools are at an age at which they are especially impressionable, adventurous, and experimental. Middle school teachers know how to channel these traits into learning. The school's design can be critical to the teachers' effectiveness. Over the past several years, middle school organization and pedagogy have developed more than at any other grade level. For instance, cross-disciplinary team teaching has become common in middle schools, and sixth grades are more commonly included in middle schools. The physical organization of the school can contribute to or hinder these developments. Good design can make a big difference.

Middle school students have special needs to feel secure and be recognized as individuals, which the new developments in middle school pedagogy help fulfill, as well as needs for academic learning. School design can also help students feel secure and valued as individuals,

The aesthetic component of education is especially important for middle school students. A beautiful school sends an important message to youngsters at this age. It is a message that their school—and their society—care about them and that beauty is an important value. Students are more likely to work hard and succeed in a beautiful building.

A useful and beautiful middle school can be designed from the ground up or as a renovation of an existing building. As superintendent of the Fairfax County Public Schools, I have seen both. This year, we opened a new school with all the features for an excellent middle school program. Included in this book is the renovation of Edgar Allen Poe Middle School, a new/old school that provides useful and beautiful space for students and teachers.

Architecture is a very important component of any school's program. The administrator who makes sure that design and construction meet the utilitarian and aesthatic needs of students and teachers goes a long way toward ensuring a successful school.

Dr. Daniel A. Domenech, Superintendent, Fairfax County Public Schools, Virginia
 President, American Association of School Administrators

SHAPING THE FUTURE Middle Schools

Halfway through each school year, Joe Kennedy, a language arts teacher at Angola Middle School in Angola, Indiana, asks his students what they think they have learned so far. According to Kennedy, the nature of many of the responses has changed since the school fully implemented teaming two years ago—he now hears more comments such as, "I actually learned that a teacher can be my friend and someone I can trust—that's what I've learned this year."

Ask a teacher at the middle school level about priorities, and he or she will most likely talk about educating the *whole* student—in other words, going beyond the academic basics and helping to shape the student's emotional, social, and physical development as well. Adolescence is a critical age in the educational process, when a child's appetite for learning can either be greatly nourished or lost forever. By working in teams—planning together, comparing notes, exchanging and building upon ideas, sharing concerns, and *collaborating*—teachers are able to mentor students effectively and create compelling educational experiences. Inspiring and enriching a young student's mind may require trying many different types of approaches—what may not work for one student may be just the right approach to reach another.

While vastly rewarding, teaching at the middle school level is truly challenging work. For this reason, teachers are often quick to praise new or modernized school environments that facilitate the educational program. Buildings should support the educational mission and enhance—rather than inhibit—learning opportunities. Our experience tells us that the best school buildings are created when, as architects and engineers, we do our own form of teaming: interactive planning and design, in which we work in collaboration with teachers and administrators to develop optimal learning environments.

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THE MORNING SCRAMBLE

"IT'S IMPORTANT TO
HAVE A NICE SCHOOL
BECAUSE IT'S KIND OF
LIKE A HOME AWAY
FROM HOME, AT SCHOOL
YOU SHOULD FEEL
COMFORTABLE AND NOT
AFRAID."

— Alex Yastrow, Fifth-Grade Student, Meridian Middle School; Buffalo Grove, Illinois

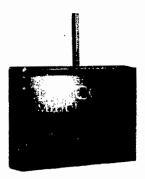
THE MORNING SCRAMBLE

BEFORE-SCHOOL ACTIVITIES

M/W/F 7:30-8:40

EXPLORERS CLASS (HOME BASE)

MATAWATHAF /8:50-9:10



Bells start ringing early in the morning at Lincoln Middle School in Indianapolis, Indiana—but not school bells. Three times a week, starting at 7:30 a.m., the 15-student handbell choir meets for practice in the choral room. Over in the academic wing of the school, a morning French class gathers every other day in the distance learning center, where the students participate in interactive sessions hosted by another school. Many students also come early for breakfast—meeting every morning in the auditeria to eat, talk, catch up on homework, and scan the large monitors that greet them with schedule updates and school news.

"When I first get here in the morning, it's quiet—but that doesn't last long," says Principal Virgil Taueg. "The students start arriving by 7:30 for before-school clubs and activities. Then the cars and buses start rolling in, phones start ringing, and kids head in all different directions. The building just comes to life."

Welcoming hundreds of students in the morning is never a small task for teachers and administrators. Lobbies, commons areas, and hallways fill quickly with children as they rush to meet with friends, visit lockers, and hurry to class. "It's the busiest time of day," says Taueg. "While the students are pouring in, the phones are ringing with parents reporting absences and appointments, and we're also working with our substitutes on the classes they'll cover. Teachers are checking their mailboxes, voicemail, and e-mail, and then greeting the students."

The chaotic atmosphere is fun for many children, but can be intimidating or distracting for others—especially younger students. Making their way to class in the morning can lead to frayed nerves and frustration on the part of new students, especially at the beginning of the school year. The size of the facility alone may make students uneasy: middle school buildings are typically larger and less compact than elementary schools, housing more students and offering a greater number of specialized program areas. Lockers are also a new experience for most middle-school students, requiring organization and quick thinking between classes in order to be prepared with books, assignments, and other materials.

"When I first came here, I thought I was going to get lost," says Erica Lynne Starks, a sixth-grade student at Lincoln Middle School. "But when I saw that all of the sixth-grade classes were in the same area, that helped." Completed in 1997 to replace a turn-of-the-century building, Lincoln's new academic area is organized into grade-level pods, with each pod accommodating two "teams" of teachers and students. "It's better than the old school because we don't have to travel so far to get from class to class," says Starks. "I know some people that had to go from the basement to the second floor in the old building. It's easier between classes because we don't have to rush around so much. All of our classes are in this one big area."

While most elementary schools build educational programs around "self-contained" classrooms, allowing primary school students to remain with one teacher throughout much of the day, middle schools typically offer a more flexible, interdisciplinary approach to curricula in which students move throughout several classrooms, working in teams. This transition often represents the most significant change for students as they begin middle school. Organization of the building itself can make a critical difference in facilitating the team instructional approach, while also easing the apprehensions of students as they attempt to feel comfortable in their new environment.



Rather than school bells, the bell choir can be heard early in the morning at Lincoln Middle School in Indianapolis, Indiana.



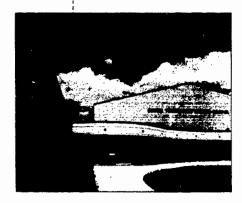
Lincoln Middle School students meet before school with pen pals from nearby Hamilton Southeastern Juaior High School, Members of the Liacoln Middle School Juaior Venture Club also meet before classes start.



THE MORNING SCRAMBLE

Opened in 1995, the new South Vermillion Middle School in Clinton, Indiana, is a source of pride for the community: "When I unlock my door every morning, I feel thankful and proud—it's a beautiful and functional building, and a huge plus for our community," says Date Orman, the school's art teacher. "It's nice here because of the way the different grades are divided up," says Doug Kriech, a seventh-grade student at Lincoln Middle School. As a sixth-grader at the "old Lincoln," Kriech found that getting to class could be a challenge: "The hallways weren't very well organized, and they were so packed that you got pushed down the stairs and you ran into other people."

"Before our new school was built, my team wasn't even on the same level," says Linda Whiteman, an eighth-grade math teacher at South Vermillion Middle School in Clinton, Indiana. The school opened in 1995 to replace a long-outdated school originally built in 1919. "Plus, we had kids in the basement when their lockers were on the top floor. Now, the lockers are right outside our rooms, and we can say to kids. 'Don't forget that book,' or, 'Do you have your assignment?' and everything's accessible."



The South Vermillion Community School Corporation, like many school districts around the country, fully embraced a teaming approach when it moved to its new building. "We went from being a traditional junior high school to the team concept," says Connie Adams, an eighth-grade English teacher at South Vermillion Middle School. "We work together with a core of academic teachers sharing the same group of students and planning their whole day. Whereas before, each teacher was locked in with the students without interaction with other classes. The students were just like a herd of cattle."

The most successful middle school buildings, according to Dr. William S. DeJong, an educational facilities planner, accommodate all types of delivery systems in education, including teaming, self-contained instruction, a departmental approach, multi-age grouping, and looping—in which the same teacher or group of teachers follows students

from one grade level to the next. "The building should never dictate the delivery system," says Dr. DeJong. "It should be flexible enough to accommodate each type of approach, or a confbination."

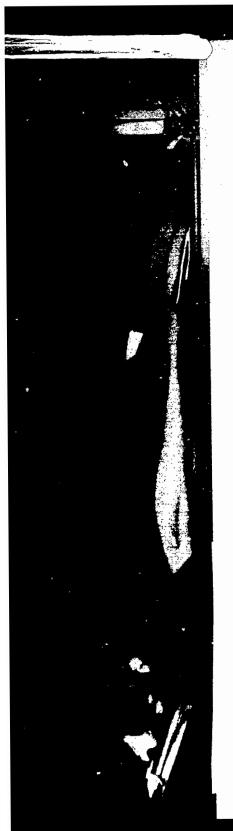
Dr. DeJong points to the team approach as the most prevalent in middle schools today—and the approach most likely to shape the future of education. "The teaming concept has become the mainstay of educational approaches at the middle school level," he says. "Teaming is a driving force in curriculum development, and ultimately it will impact elementary and high school education as well because it's the most student-centered of all approaches—it puts students first."



"When we first moved in, we brought all the kids on our team to the large-group instruction room," says Gary Kearney, a science and geography teacher at Angola Middle School in Angola, Indiana, which was recently expanded and renovated—in part to accommodate teaming. "We introduced ourselves and said to the kids, 'We're one family here—and we're all going to get to know each other.'"

Joe Kennedy, a language arts teacher at Angola Middle School, confirms that the teaming concept has brought teachers closer to the students since it was fully implemented in 1996, following completion of the facility modernization: "Every year—about halfway through the year—I ask my students what they have learned in class so far. And the last two years I've gotten a lot more comments like, 'Well, I actually learned that a teacher can be my friend and someone I can trust—that's what I've learned this year.' And they've learned it because of the way we're teaching now. It's not just 'Okay, let's go open a book and learn from it.' It's different. It's a sense of community."

A colorful mural, glassedin display space, and on uttractive main office suite welcome students and visitors at South Vermillion Middle School. The school's carpeting, which reflects the colors chosen for each of the three grade-level pods, is a favorite among tenchers: "The hallway noise was really bud at the old school," says Counie Adams, un righth-grade English teacher, "Here, with the carpeting, it's so quiet you can walk down the half and sneak up on people!"





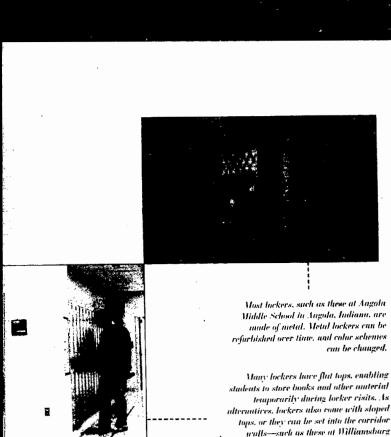
The corridors at Central Amior High School in West Melbourne, Florida, are colorfid and brightly lighted, and are wide enough to accommodate circulation and locker visits. Stacked locker sace space (and may be more appropriate to warmer climates where heavy coats aren't often needed), although they may cesult in increased locker congestion.

WHAT SIZE SHOULD THE LOCKERS BE?

Ask a student who's just about to enter middle school about his or her biggest fear, and the answer will often be, "I'm afraid the older kids will stuff me in my locker!" Concerns about lockers—including not being able to manage the lock and get into them, as well as keeping *out* of them if bullies threaten—are common at nearly every middle school.

Locker headaches persist for teachers and administrators as well. In planning new locker areas, issues include: the size of the locker—including width and height (generally; big enough for coats, backpacks, and large books, but too small for children's bodies); and the arrangement—typically either along hallways or clustered within small commons areas near classrooms. Ease of access, noise control, and supervision are key factors in determining the configuration and location of locker areas.

"Hike to see the lockers clustered within the academic pod areas," says Walt Carbing, president of the National Middle School Association and an educational program consultant, "That helps in accommodating a flexible block scheduling program. I would also avoid having lockers along major corridors with a lot of traffic. And each student should have a locker—locker 'partners' don't always work."



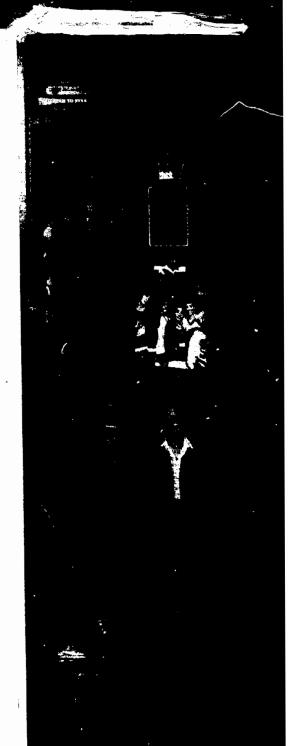
walls—such as these at Williamsburg Middle/High School in Williamsburg, Ohio. These options climinate the potential for litter accumulation.

Manufacturers today issue lockers at a size that easily accommodates backpacks (usually at least 12 inches deep and 12 inches wide --- an option for school administrators who prefer that students not carry backpacks from class to class.

Most lockers feature built-in, durable locks; shelves for books; and books for coats and backpacks. The units are typically available in a variety of paint colors, so that lockers can become an integral part of ped or grade-level color coding, or reflect school colors,

Do kids really get shoved into lockers, and are the students' fears valid? "We want every student to feel that the school is a safe environment," says Dr. Bernie Gross, principal of Cooper Middle School in McLean, Virginia, "The lockers are a big concern to them, We spend time during the first few days of school helping them practice with their locks, and we're constantly supervising the hallways. The idea that students get pushed into lockers is a big rumor that circulates every year, but it doesn't happen here."

One Cooper Middle School seventh-grade student offers her own account: "When I first saw our lockers, I thought they could fit a very small person, but it would be a lot of work to try to get someone in there. I'm tall so I didn't worry. The only kid I ever saw being stuffed in a locker was actually stuffing himself in the locker to see if he could do it?



LINCOLN MIDDLE SCHOOL; INDIANAPOLIS, INDIANA

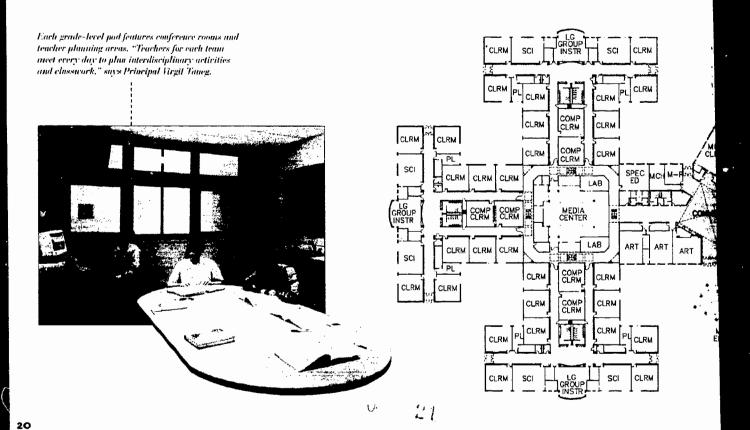
"We are constantly learning how to use this building in different ways," says Principal Virgil Taueg of Lincoln Middle School, "Between the building itself and the technology, we have so many more opportunities than we did in our old school,"

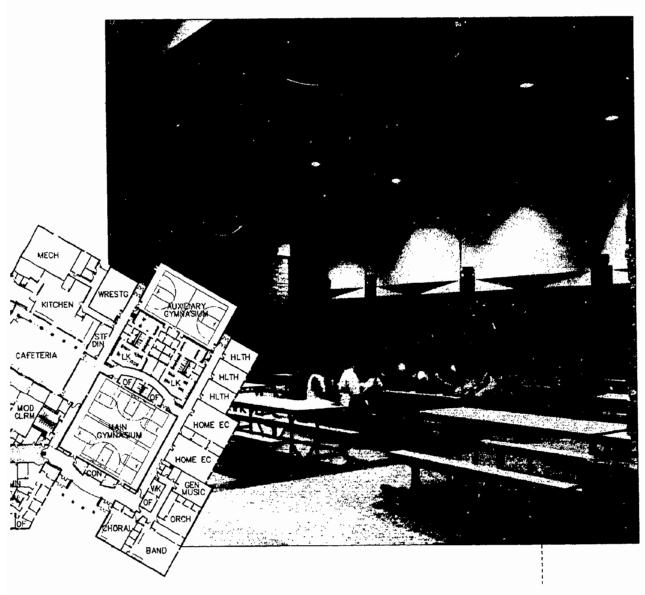
Completed in 1997 to replace an aging structure that no longer accommodated the Metropolitan School District of Pike Tenship's middle school instructional program, the new Lincoln Middle School is flexibly designed to support a number of educational approaches—including teaming. Each grade has its own wing, with classrooms organized

around a commons space. The wings also have their own large-group instruction room, conference rooms, and teacher planning areas. Color coding each wing—in blue, green, or burgundy—contributes to the grade-level identity.

"I've taught in a number of middle schools and it's hard to team unless it's designed like this." says Jennifer Powers, a sixth-grade English teacher. "With the grade-level pods, teams have their own space. We can do things in our own hallway that the students see every day. Before, we were so spread out that there wasn't any central space that was ours. Now we can have an 'Olympian' hallway, or a 'Voyager' hallway for the teams. The students know where they belong."

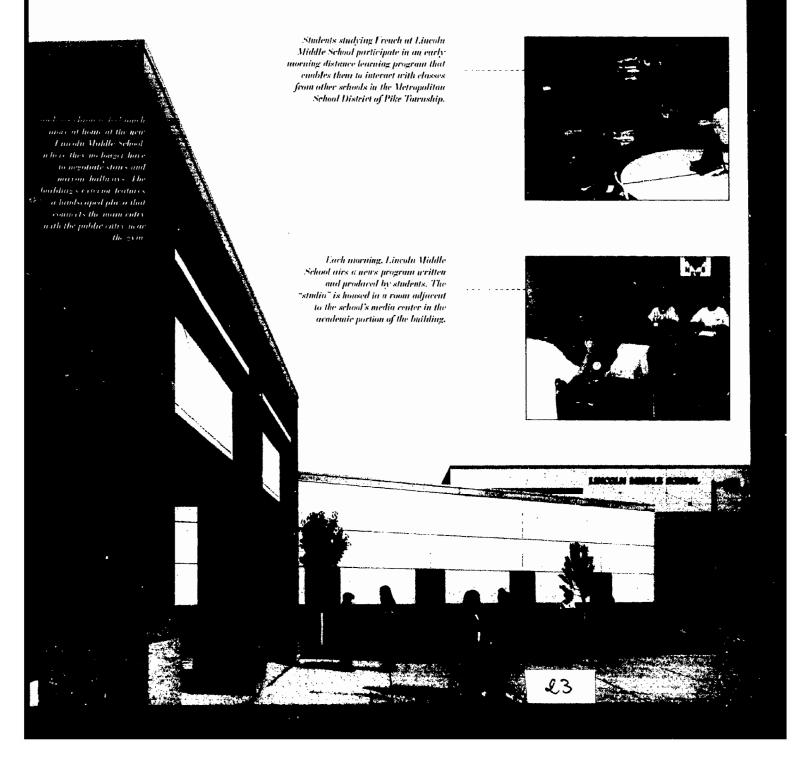
The teachers at Lincoln Middle School also attribute improved student supervision to the layout of the school, "You know the children who are in your area," says Susan Sanders, a sixth-grade computer instructor. "The students you are supervising in the hall are the students you have in class—this makes for more effective discipline." Karlyn Fox, a sixth-grade math teacher, adds, "The organization of the academic wing keeps the





The muliteria at Lincoln Middle School sees frequent use by stadents and the community. The room starts to fill before 8:00 a.m. with students arriving for breakfast each morning.

LINCOLN MIDDLE SCHOOL; INDIANAPOLIS, INDIANA





sixth-graders away from the eighth-graders, and that's good. There can be a big difference between students in the sixth and eighth grades, and we need to keep them separate."

Taneg cites staff and student communication as one aspect that has changed dramatically in the new building. "We rarely interrupt classes for amounteements—all they have to do is look up at the monitors to find out what's going on. I also think it's an asset that they need to read this information." Taneg regularly relies on e-mail to communicate with staff: "Most mornings, the teachers have some sort of greeting or amounteement from me—usually a 'Did You

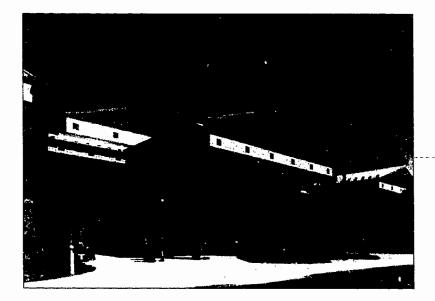
Know? type of message, I can also forward information directly from the superintendent's office."

The communications program at Lincoln Middle School also encompasses a student-run morning video news program. Students can "catch the news" cach morning in their "Explorers Class." beginning at 850, "We designed the Explorers Class to give the students a home base," says Taneg, "It gives them some continuity throughout the year. We use the time for brief activities and to watch the news program," Written, presented, and produced by the students, the morning news program typically runs seven

or eight minnes, reviewing schedule highlights and bringing attention to student achievements. "It's a big deal to be on the news here," says Taueg, "And the language arts and media aspects of producing the news are an important part of the students' classwork."

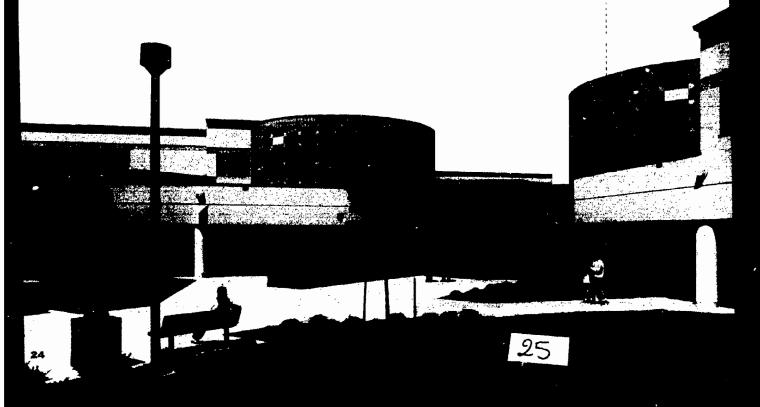
"Thardly even use paper to communicate anymore." Taneg notes. "The technology here is great. Everything about this building has enhanced our program—our ability to team, communicate, expand student activities, involve parents, and bring in the community. Does this building make a difference? It's like night and day."

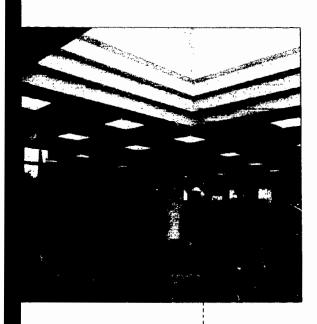
THE MORNING SCRAMBLE



The new Williamsburg Middle/High School in Williamsburg, Ohio, accommodates 700 students in grades 6-12. Geneval classrooms for the middle school students are clustered near a separate main entry, away from the high school wing of the building.

A landscaped plaza with seating welcomes students and visitors to Hamilton Southeastern Junior High School in Fishers, Indiana. The plaza adjoins the main entry, as well as entries to the academic and public wings of the building.

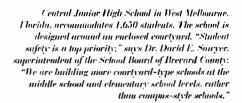


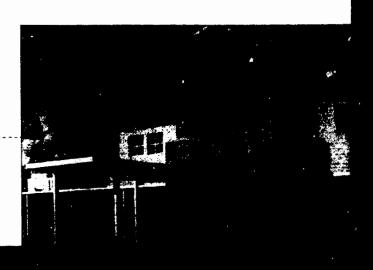


A large commons area at Hamilton Southeastern Janior High School offers access to the main office, and separates the public realm of the building from the academic realm.



The courtyard at Central Junior High School serves as a gathering place for students before and after school. In addition to providing an informal environment for social interaction, the courtyard is sized for large ereats, including stage presentations, pep rullies, and dances.





LEAPIN-LIZARDS. RAPTORS. AND THE BRAINY BUNCH

"MIDDLE SCHOOLS
ARE WHERE WE NEED
OUR VERY BEST
TEACHERS—AND OUR
VERY BEST BUILDINGS."

—Andith A. Cochran, Ph.D., L. Desmond Lee Endawed Professor of Education, University of Missouri, St. Louis

LEAPIN' LIZARDS, RAPTORS, AND THE BRAINY BUNCH

LANGUAGE ARTS

M/T/W/F 9:15-10:05, TH 9:15-11:00

"We want students to be able to make *connections* in their studies," says Dr. Richard N. Clapp, superintendent of the Woodridge Local School District in Cuyahoga Falls, Ohio. "It's especially important for middle school students to understand the relationship between subjects—how being able to write well can help them with their science experiments, for example. Our teachers work in teams and talk daily about interdisciplinary lessons and coordinating work for the students."

"Carriculum is integrative when it helps students make sense out of their life experiences. This requires curriculum that is itself cohercut, that helps students connect school experiences to their daily lives outside the school, and that encourages them to reflect on the totality of their experiences."

-THIS WE BELIEVE,
NATIONAL MIDDLE
SCHOOL ASSOCIATION

Like many school districts around the country, Woodridge Local School District has embraced a middle school philosophy that includes grade-level teaming and the use of integrated curriculum. "An integrated curriculum enables a child to think in a global way, rather than linear," says Dr. Judith Cochran, Ph.D., professor of education at the University of Missouri, St. Louis. Dr. Cochran, who specializes in training middle school teachers, advocates an approach that encourages students to look for relationships, or connections, between subject areas. "In language arts, for example," Dr. Cochran says, "a child doesn't simply think 'first we'll do spelling, then we'll do reading, and then we'll do writing'. With an integrated curriculum, learning is often more topical. Students might study water, for example. They can read about water, write about rivers, study ice in science, and explore water in several different academic subject areas."

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Such broad-ranging, collaborative study programs typically require spacious, flexible facilities. "Our teachers were very involved with the design of Woodridge Middle School," says Dr. Clapp. "They knew that each grade needed to have its own wing, and that teams needed to be kept together. They wanted to be able to work with all of the students in one grade in a large group, or in smaller groups as needed—so they wanted space that would give them a lot of flexibility. Now students have their own wing, with their own set of teachers. It's their home base, where they spend most of the day. And with teachers collaborating more, the students don't feel bombarded. Everything is coordinated. I believe that teachers are better able to help students with their social and emotional development as well."

When students at Lincoln Middle School in Indianapolis, Indiana, studied the Titanic, instructional activities and hands-on projects were held throughout the school-including classrooms and science labs, largegroup instruction areas, commons spaces, hallways, and the media center. "The entire team planned the Titanic unit together," says Principal Virgil Taueg. "The project involved language arts, social studies, science, reading, computers, math-teachers met every day on this. On the 'big day', we set up the lifeboat stations in the classrooms. When the 'abandon ship' order was given, first-class students were released to get life preservers from their lockers. 'Steerage' students were held several minutes past the 'abandon ship.' We studied the evacuation process-and really looked at the emotional side of it—the human side. In the end, of course, some students made it to lifeboat stations

and some didn't."

"If a building is not designed to fit a middle school program, it's like trying to fit a square peg into a round hole. It's not ideal for the kids. At our new school, teaming concepts and an integrated curricalum will be eauthasized."

> —Dr. Marc Crail. Saperintendent, Kent City Schools, Ohia

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instruction area. The

LEAPIN' LIZARDS, RAPTORS, AND THE BRAINY BUNCH

With media centers now playing a more integral role in school-wide curriculum, media specialists often work hand-in-hand with teachers to help carry out special projects and activities. Eighth-grade language arts students at Chester Middle School in Chester, Virginia, recently used a variety of library materials to do follow-up research about the Holocaust after reading *Anne Frank: Diary of a Young Girl*. Another team studied poets and used the media center for a "Poets' Tea," while students in the school's health classes studied nutrition using library resources. Other topics recently explored in the media center—using the Internet, CD-ROMs, and printed materials—have included classical musicians, inventors, and the Vietnam War. "Librarians don't just stand at the desk," says Anne Sutton, head librarian at Chester Middle School. "We constantly interact with students and teachers. As a result, we need space to teach, host special events, create displays and contest areas, and store a variety of materials."

Media centers at the middle school level now see constant use by students and faculty, rather than the "once a week" visit by classes that was more typical in the past. "Our teachers have kids in and out of the media center all day long," says Dr. Clapp. "It's accessible from all the grade-level wings, and teachers use it daily. Students use it constantly for instruction and research. Going to the media center is no longer and 'event'—it's a vital part of the program."

Media centers at the middle school level are often as large as 4,000 to 5,000 square feet, enabling two or three classes to visit at the same time. The facility is used more

frequently for formal instruction as well, as opposed to independent reading and research assignments only. Small conference rooms, offices, production areas, computer labs and reading nooks positioned around the perimeter of the main reference room facilitate small-group discussions and related instructional activities. Often, media centers are a central part of a school's computer network, allowing students and faculty to access resources from their classrooms or even from home.

Clearly; media centers have evolved beyond book-based learning, to encompass computer research and assignments, multimedia presentations and production activities, small- and large-group discussions, hands-on demonstrations, and interactive displays. "Our media center fits our philosophy," says Sheryll Harper, principal of Discovery Middle School in Granger, Indiana. "It's very conducive to collaboration. We wanted it to be very flexible and accommodating to a lot of different activities."

Still, books remain at the heart of the media center and its mission. "I'm trying to create a reading culture here—that's my guiding philosophy," says Sutton. Like many media specialists, she strives to preserve student interest in books in the face of growing competition from sophisticated multimedia technology—ranging from educational computer programs to video garnes. To encourage reading, Sutton sponsors authors' "Book Talks," daily almanac contests, and a host of competitions in which students accumulate reading points. "We want to immerse our students in books," Sutton says.
"I want to see a love of reading throughout the building."

WOODRIDGE MIDDLE SCHOOL; PENINSULA, OHIO

Two primary objectives drove the planning and design process for the new Woodridge Middle School in Peninsula. Ohio: accommodating a variety of instructional delivery methods, and providing wide-ranging student and teacher access to technology and diverse informational tools. These goals were met with the completion of the 550-student. 80,000-square-foot school, where efforts to maximize long-term building flexibility yielded a versatile yet efficient layout that promotes collaborative learning and team teaching.

"This school was planned to fit a middle school philosophy." says Dr. Richard X. Clapp, superintendent of the Woodridge Local School District, Dr. Clapp points to the involvement of the school's principal and several teachers as being critical to the success of the design: "We wanted clusters for each grade, and the ability to gather students in one space, or divide teams in half, or in smaller groups, We wanted flexibility and to be able to accommodate future growth."

For Dr. Clapp, an unexpected attribute of the school is its tranquil atmosphere.

Areas that house noisier activities—such as the gym, the cafeteria and the industrial technology lab—are located in the public realm of the building away from classrooms, "There are many times during the day that you wouldn't even know that kids were there." he says. "If you're near the classrooms, you will hear the learning noises".

But in



Set in the midst of Ohio's Cuyahoga Valley National Recreational Area. Woodridge Middle School enjoys a wooded site. Classroom clusters are arranged to maximize views of the woods. Clerestory windows in an elevated alcove the media center bring in natural daylight and demarche the hab of the acudemic clusters of the school.

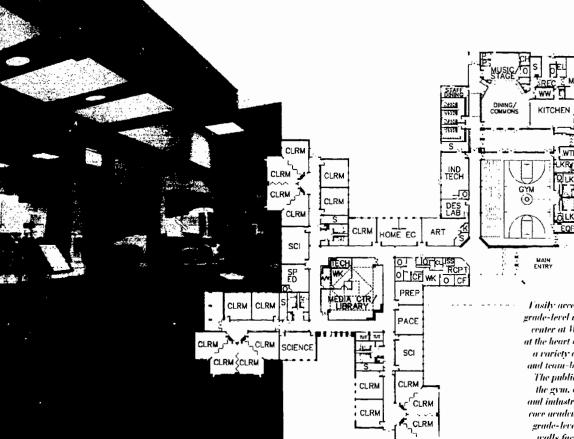
general it's very peaceful."

The core academic zones of the award-winning school encircle a ±.000-square-foot media center—the interior and exterior focal point of the building and the "hub" of the school, according to Dr. Clapp. The school's floor plan takes its cue from a child's pinwheel, with the academic clusters radiating from the media center.

Clerestory windows illuminate the media center with natural daylight and create a beaconeffect when lit in the evening.

Woodridge Middle School is set in the heart of the Unyahoga Valley National Recreational Area, just south of Cleveland. Much of the woodland area was preserved on the site, and the school's brick and cast stone exterior complements its natural setting. But despite its attractive exterior, the real success story lies on the inside of the building: "It works even better than we anticipated." says Dr. Clapp. "The teachers love it, and the students are proud of it."





Lasily accessible from each of the three grade-level academic clusters, the media center at Woodridge Middle School lies at the heart of the facility and is used for a variety of independent, small-group, and team-based instructional activities. The public zone of the building houses the gym, dining/commons area, stage, and industrial technology lab; while the core academic clusters contain separate grade-level classroom areas. Operable walls facilitate team and large-group activities in the classroom areas.

HALLENGE

A DAY AT THE BEACH

denoths Accelerated Reacher Program and casa paras to creex lood from read train the media of a Ary on and, the attendent with the life to stand bookstore and be writted to a special program paras Train penals and gradum and along the near Train penals are accumulated school and by the end of the year your himmunes will host a Day At The Book points and near each mulated school and by the end of the Year your blanchus will host a Day At The Book party and near each multies button; suits for an entire day



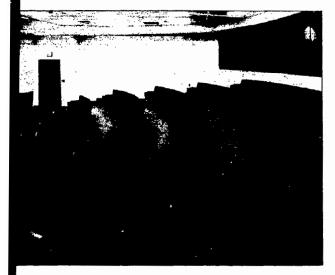
HIGHLIGHTS OF THE ACCELERATED READER
PROGRAM AT CHESTER MIDDLE SCHOOL IN
CHESTER, VIRGINIA. IN PAST COMPETITIONS,
FIRRARIANS AND TEACHERS HAVE DONNED
RATHING SUITS, CLIMBED ONTO THE SCHOOL'S
ROOF, AND EVEN HAD THEIR HEAD. FORVED TO



The large-group instruction room at South Vermillion Middle School in Clinton, Indiana, sees frequent use far classes, awards ceremonies, and performances.



"In our old school, we were so crammed in our classrooms," says Counic Adams, an eighth-grade English teacher at South Vermillion Middle School, "Now we have space to more around, and to move furniture around as we need to."

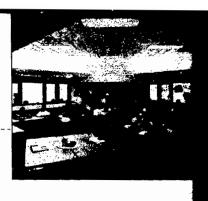


"The difference between our old media center and the new one here is like night and day," says Charles Jackson, a seventh-grade science teacher at South Vermillion Middle School, "The new media center is used a lot more—for reading, research.

computer instruction, and just a quiet place to go."

The media center at North Oldham Middle School in Goshen, Kentucky, includes offices, a conference room, a reading room, and a until-purpose room. The reading room also opens into a landscaped contyard at the center of the school. The center is sized and configured to accommodate a variety of independent, small-group, and large-group activities. The academic wing of Discovery Middle School houses three grade levels in separate "neighborhoods," Each neighborhood accommodutes two teams of up to 150 students, Perimeter cabinetry and storage areas reduce clutter in the center of the classrooms, enabling stadents and teachers to more about more freely:

"People corve into this room and just say Wow!" says Diane Keller, a media specialist at Discovery Middle School in Granger, Indiana. The center includes a spacious reading/reference area, computer classroom, conference room, work technology area, production raom for video editing, and two resource rooms.





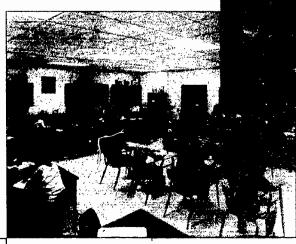


LEAPIN' LIZARDS, RAPTORS, AND THE BRAINY BUNCH



Oak furniture in the media center at Lincoln Middle School in Indianapolis, Indiana, fucilitates computer-based research. The tables and desks include keyboard stands and custom storage for wiring.

Classcooms at the 500-student North Oldham Middle School in Goshen, Kentucky; feature operable walls to facilitate team teaching and large-group activities.



Children at Meridian Middle School in Buffulo Grove, Hlimis, onjoy the upper-level cammuns area for independent rending, small-group activities, and performances.



Classrooms at Williamsburg Middle/High School in Williamsburg, Ohio, are brightly lighted with room for a cariety of senting arrangements.



Teachers appreciate the case with which they can view the media center from both levels at Meridian Middle School. Clear sightlines into the center enable teachers to monitor student activities and check on availability of computers and other resources. According to Principal Susan L. Mann. student temptation to disrupt media center activities from above has been minimal.



Located directly across from the moin lobby io the academic realm of the building, the media ceater at Wilson Middle School in Muncie, Indiana, offers casual and small-group seating.

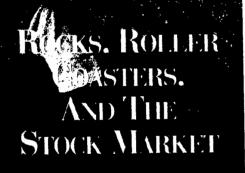
DEVELOPMENTALLY RESPONSIBLE MIDDLE LEVEL SCHOOLS ARE CHARACTERIZED BY:

- I duentors committed to your adolescents
- I shared riston.
- · High expectations for all
- An adult advocate for every student
- "Tannets and community partnerships
- 1 positive school elimate

THEREFORE, DEVELOPMENTALLY RESPONSIVE MIDDLE LEVEL SCHOOLS PROVIDE:

- Universiting that is challenging integrative and explorators
- Paried teaching and learning approaches
- Issegsment and evaluation that promote learning [].
- Herible organizational structures
- Programs and policies that toster health wellness and safety
- Comprehensive guidance and support services.

THE NATIONAL MIDDLE SCHOOL ASSOCIATION.
THIS WE BELIEVE! 1995



"WE TRY TO TIE
SCIENCE INTO EVERYDAY
LIFE. THE STUDENTS
AREN'T ALL GOING TO
BECOME CHEMISTS AND
SCIENTISTS, BUT I WANT
THEM TO SEE HOW
SCIENCE RELATES TO
THE WORLD."

—Louise Morello, Eighth-Grade Science Teacher and Department Chair, Edgar Man Poe Middle School: Annundale, Virginia

ROCKS, ROLLER COASTERS, AND THE STOCK MARKET

SCIENCE

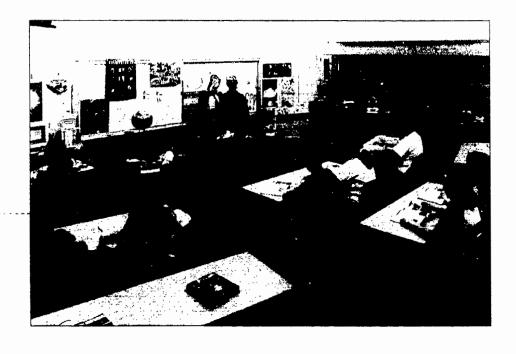
M/T/W 10:10-11:00, F 10:10-11:55

MATH

M/T/W/TH 11:05-11:55

Stop into a science class at Angola Middle School in Angola, Indiana, and you might hear a discussion of how human bacteria has launched a multi-billion-dollar, international perfume and deodorant industry. At Edgar Allan Poe Middle School in Annandale, Virginia, eighth-graders in math and science may be checking the stock reports to review the latest figures for major consumer product and pharmaceutical companies. And at A.I. Root Middle School in Medina, Ohio, students may be exploring the density of a steamer

"We can get all 100 students on our team into the science room," says Penny Snyder, science teacher at Angola Middle School in Angola, Indiana, "That's the kind of space we need. I think it's wonderful to have room so that the kids can actually get up and more around and do hands-on activities."



trunk as a part of a unit reviewing the history of U.S. immigration, or analyzing data on roller coasters collected on a field trip to Cedar Point amusement park.

Around the country, science and math programs at the middle school level have evolved into creative yet practical initiatives that engage students through a combination of multimedia instruction, field experimentation, computer-based analysis, interactive research, and hands-on activities. Subject matter—as broad-ranging as analyzing the design of athletic shoes to predicting the weather—is often linked to curriculum in other academic areas, such as language arts, social studies, economics, and even physical education. "We try as much as possible to integrate the curriculum for our team," says Louise Morello, an eighth-grade science teacher and chair of the science department at Edgar Allan Poe Middle School. "I think it helps students understand the role that science plays, and how it affects their everyday lives."

While science curriculum in particular has become more inventive, the application of technology has also become routine. Rather than logging data by hand, for example, students use probeware linked to computers that automatically document and graph statistics such as temperature, light density, or pH levels. Computers, VCRs, laserdisk players, CD-ROMs, and innovative software programs supplement instruction and work well for both large and small groups. Many teachers use computers linked to large-screen monitors to demonstrate software or run multimedia presentations. "This is the way science is done today—on computers." says Morello. "We use computers for everything from data collection and

experiments to tests. It's amazing how the students have come along with technology. And accessibility to computers is vital during class time—I use them all the time to reinforce a point or to answer questions. It's often spur-of-the-moment, which shows how integral the technology has become."

Students at I dgar Allan Pac Middle School in Annandale, Virgima, often use computers to assist an scientific experiments.



BEST COPY AVAILABLE

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ROCKS, ROLLER COASTERS, AND THE STOCK MARKET

"I finally have a place to store everything. It's the first 'have in 23 years of teaching that "he had a place to put everything away."

-Louise Mocello Eighth-Geade Science Teacher, Edgar Allan Poc Middle School: Annandale, Virginin While computer-based instruction and creative curriculum keep students challenged, teachers are also focused on another important concern: safety. In science classes, glassware, hot plates, Bunsen burners, and chemicals present a host of potential hazards to students. Many teachers point to the classroom space itself as a factor in the safety of a science program. "I always worry about students getting cut or burned when the room is too crowded," says Morello, who moved into a more spacious classroom/lab when Poe Middle School was renovated and expanded. "Now, the room is big enough that students can spread out and work without bumping into each other or tripping. We can rearrange the tables several different ways. They can stand at the counters around the perimeter of the room, or work in small groups at the tables."

Tess Ewart, an eighth-grade teacher at A.I. Root Middle School in Medina, Ohio, agrees that space is critical to both safety and the quality of instruction in science. "It's great to have a larger room and more room to work," Ewart says. "We have space for the lab stations and for classroom instruction; and with the room layout, it's easy to watch and supervise—especially students working at the fume hood." Ewart points to the inclusion of a fume hood and eyewash station as important to the overall safety factor: "Having the fume hood and eyewash station has really made a difference in terms of safety. In our old

The science rooms at Wilson Middle School is Muncie, Indiana, include a func hood, allowing students and staff to work with chemicals in a safe, well-rentilated area.



school, we didn't have proper ventilation—now I don't have to be concerned about the students inhaling vapors because of poor ventilation in the room."

Ewart and Morello also note that lockable storage is crucial within the science program. At Poe Middle School, a large storeroom with a sink is shared by two science rooms. "We have a nice, large storeroom," says Morello. "About half of the space is used for teacher preparation, and the other half for chemical storage. We also have another chemical storage room down the hall, which is locked. Lockable storage is a big plus in the design—if the chemicals are too accessible you really have to keep an eye on everything."

At Angola Middle School, completion of the school's renovation and expansion meant new science labs in each of the grade-level wings. "We used to have four or five science classes going on at one time but only two labs," says seventh-grade science teacher Paul Beckwith. "It was like trying to go next door to cook at your neighbor's stove." A lack of running water and storage space for equipment and glassware also frustrated Angola Middle School teachers prior to the renovation. "We use more equipment and materials now than we did before," says sixth-grade science teacher Dean Harter. "It's convenient, and we can find things and do a lot more in the lab."

"Onr new science rooms really support our program—
in the past, our rooms were very small and limiting. The science program for this age group needs to be extremely interactive, and focused on problem-solving and trial and error. It's very hamls-on."

—Hank Smith, Superintendent Celina City Schools, Ohio



"Having more sinks in the clussroom is a big timesurer," says Poe Middle School science teacher Louise Morello, "We don't have to stop class several minutes early to start cleaning up, because there are more sinks to get the job done. It leares us more instructional time,"



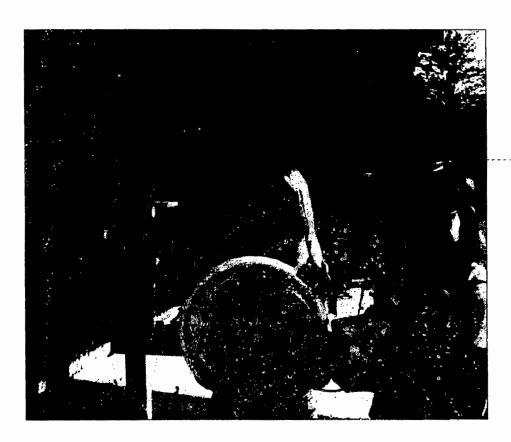
The outdoors is used extensively by students as part of A.I. Boot Middle School's science program. Students have planted trees on Arbor Day, and recently studied racks and crystals. Many middle schools extend their science program into the outdoors. Use of environmental labs, gardens, ponds, wetland areas, forests, and fields enhances the study of wildlife, plants, rocks and minerals, the weather, and the environment in general. "We use the outdoors as often as we can," says William Nettles, a sixth-grade science teacher at A.I. Root Middle School. Sixth-grade projects have included mapping the woods by the school, a study of the nearby creek, rock identification, and making crystals.



"We built a weather station in the field next to our school," says Nettles. "It's equipped with thermometers, barometers, a wind vane, and a rain gauge. We've studied clouds and learned about forecasting the weather. The students really liked it, and we've been able to combine science, math, and writing—when we did our study of the weather. I asked the students to describe the weather each day. They were only allowed to use each adjective once a month, so once 'rainy' and 'cold' were used, it was a struggle. Toward the end of each month, we had a lot of creative ways to describe the weather."

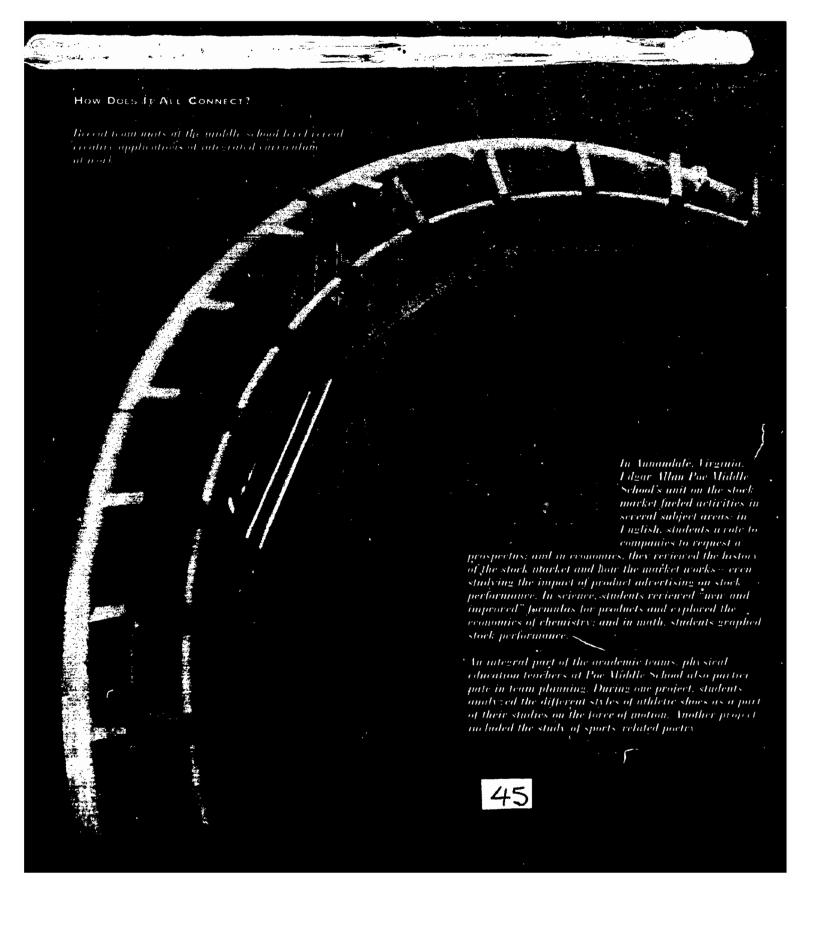
"We have come as far as we can by changing schedules, arganizing teachers and students into teams, and adding on to the already over-crowded carriculum. Now we must turn our attention to crafting the curriculum into what it must be: responsive to the unique and compelling needs of young adolescents."

—Edward Bruzee in Beyond Separate Subjects: Integrative Learning at the Middle Level ¹



Sixth-grade students at 1.1. Hoot Middle School in Medina, Ohio, stadied the weather as a part of the school's earth science program. Named for an 4.1. Hoot student, the Shawn Clark Weather Station houses barometers, thermometers, a wind cane, and a rain gange.

⁴ Sm Rimvan Avonne, and Fanctorin C. Arctoriassel ditors, Devond Separato, Subjects: Integrative Featuring at the Middle Level, Christopher Gordon Publishers, Inc., Northwood, MA, 1995, Page 22.



In Meding, Ohio, A.I. Boot Middle School's recent unit on roller consters took to or eighth grade teams to Sandusky.

Oligo, where they existed the historic Cedar Point annisement park. Studies ranged from mathematical and scientific data analysis of roller consters to the history of Cedar Point Lake Frie, and even the War of INL2.

The school's eighth graders also recently studied immerior from reading norels and journals, learning songs, and z studying films. In math and science, students evanimed the typical contents and colonic of a steamer trank and studied its density—including a bother the trank neight studied during the sinking of a ship crossing to America.

> A unit on "Walls" at Cooper Middle School in McLean, Virginia, explored famous walls such as the Berlin Wall and the Great Wall of China. Students also spent two days with professional architects simulating the construction of a wall for a cathedral, using gallow milk jugs filled with water and learning mathematical and structural engineering concepts such as load-bearing and non-load-bearing walls.

A scrib-grade unit on the Berolutionary War at Davey Middle School in Kent, Olno, not only encompassed reading, history, and social studies assignments, it included a project in science on how to make penter and studies of relative distances in math—such as the distance of Paul Revere's vide.

> In Indianapoles Indiana, Lincoln Middle School's unit on the Vitanic embraced science and mathematical challenges as well as history and language acts for a "Float You Boot" unit, students designed ships using plastic soft dead bottles, and tested how much need to the ships, could carry before sudence In moth, they constructed ships out of two board and studied occupies using a roles at the ships.

ANGOLA MIDDLE SCHOOL; ANGOLA, INDIANA

"When we started teaming here, all of the teachers were encouraged to design a class that we would really like to teach," says Scott Hottell, a seventh-grade language arts teacher, "I'm an avid outdoorsman, so I began teaching 'Adventure Literature,' All of the books we read get the kids to think about other places, I want to encourage them to travel and to create adventure in their lives—even in their own backyards," The spirit of adventure that Hottell describes is not limited to his popular "Adventure Literature" class, Since the completion of Angola Middle School's comprehensive modernization, involving renovation of nearly 90,000 square feet of space and the addition of another 72,000 square feet, teachers have begun to incorporate more creative and ambitious projects into the curriculum, regularly working in collaboration with each other.

"We are offering courses that are just amazing for our kids." says Deborah Gilbert, an eighth-grade teacher in language arts, speech, and communications, "I have a 'global communications' class that started out with writing and researching on the Internet. Now we're getting into Web design. I don't lecture at all, I give all of the instructions over e-mail. I never expected a class like this in my lifetime."



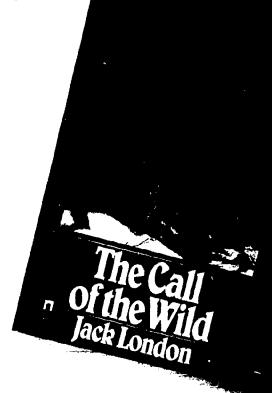
Glass walls at the rear of Angola Middle School's new media center overlook the school's playing fields and wooded site. A circular stair provides visual interest and arcess to a teacher resource room.





HOTTELL'S ALL-TIME FAVORITE ADVENTURE BOOK?

CALL OF THE WILD BY JACK LONDON.



"ADVENTURE LITERATURE" READING LIST:

- Moccasin Trail, by Eloise Jarvis McGraw
- Call Of The Wild and To Build A Fire, by Jack London
- Black Star, Bright Dawn, by Scott O'Dell
- Heard The Owl Call My Name, by Margaret Craven
- Banner In The Sky: by James Ramsey Ullman
- Snowbound, by Harry Mazer
- Hatchet, by Gary Paulsen
- Treasure Island, by Robert Louis Stevenson

"ADVENTURE LITERATURE"

- Seconther ends touches Scott Hostell may be touched burgue outs and laterature 199
- his most popular comes at the de Middle

sinden appoints for the real sales. A

class he derebaped report because at his or is
interest in outdoor adventure. Hottell's Adventure

Internative course covers both classic and
contemporary betrow that explores subjects consisteam printes to monutain clinibia.

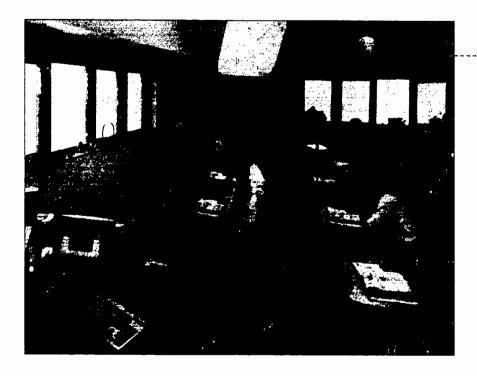
Surrial is a common them, in many of these hoods one of Platett. I encourage the students to think about surrial incerticing conditions and istore their monters are recommended that chaffeness. This reading list represents a cross section of cultures and fustorial time tenness and he has in the interatine distinsipar with Internet research after conditing studies; in a cross stade of the letter of the present manifolds in a cross stade of the letter of the internet is sure. The read scale of Plates Blacks Star. Bush Dawn sores than the higher substant different are in Master. March when the blue real states. We studied the distance of the reaction and using the Internet we were after the regard the reactions of the parasing them, when the states the cross the lates and the lates and the reactions of the parasing them, then the lates and the lates are the lates and lates there is a cross the lates and the lates are the lates and lates there is a cross the lates and lates the control there are not the lates and the lates and the lates are the lates and lates the control there are not the lates and the lates and the lates are not the lates and the lates and lates there are not the lates and the lates and lates there are not the lates and the lates and the lates are not the lates are not the lates and the lates are not the lat

ANGOLA MIDDLE SCHOOL; ANGOLA, INDIANA

Modernization of Angola Middle School created grade-level clusters to facilitate teaming, "We're more cohesive in a lot of the things we do," says Penny Snyder, a science teacher, "Before, we didn't have a chance to interact with each other even if we had the same students. I think we've provided more balance for the students. For example, if someone's giving a test on one day, we all know about it—so we don't all give tests and overwhelm them." Hottell agrees that teaming has its advantages: "With teaming, there is a lot of mutual support and interactive planning. And if you have a wacky idea, you have several people all saying they will help you."

While teaming does enable teachers to moderate student workload.

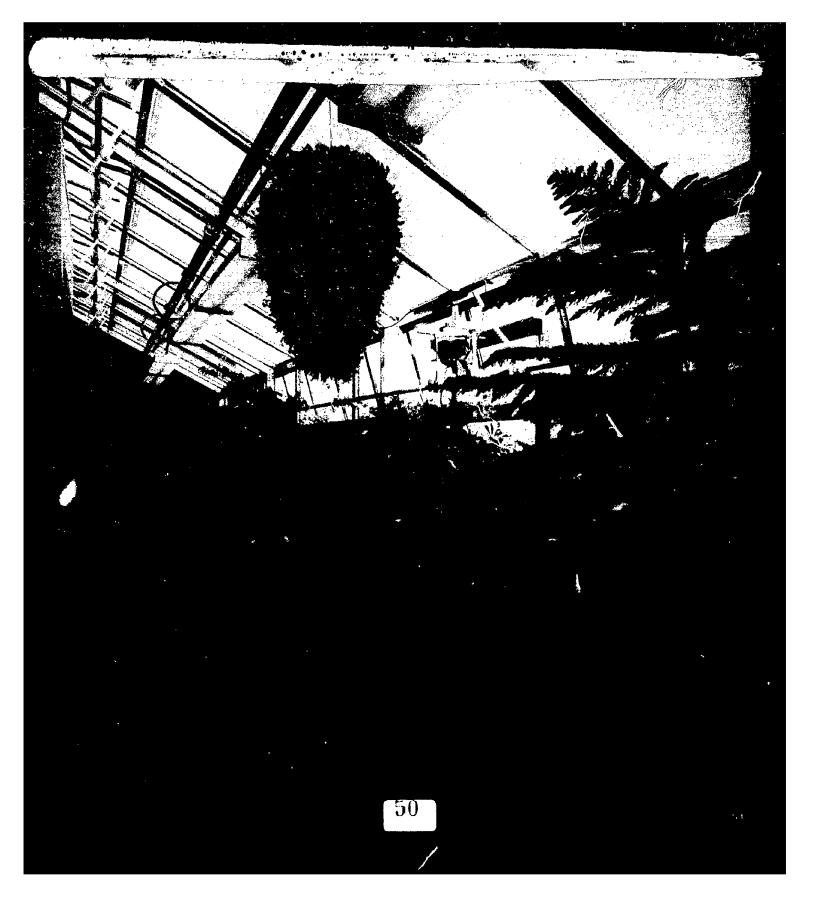
eighth-grade teachers at Angola Middle School conspire to push their students as much as possible every Wednesday afternoon—during "Brain Bowl." Held in the new large-group instruction room, Brain Bowl features two teams of students, competing in a quiz show format complete with an automatic timer, lights, and buzzers, "We purchased machinery that allows students to buzz in when



Classrooms at Angola Middle School are large enough to permit flexible seating arrangements. Sloped projection walls aid in multimedia presentations.

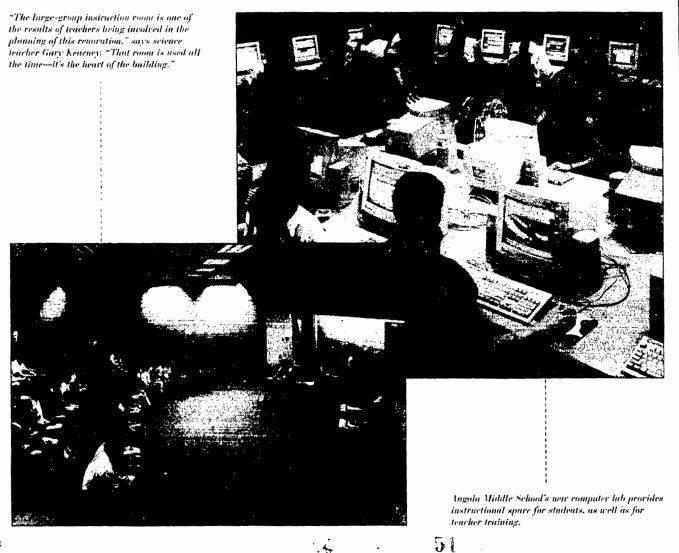
A greenhouse was added to Angola Middle School during its renovation, allowing stadents to study plant life and plant cure, photosynthesis, and hydroponics. Teachers also take advantage of the woods and wetlands area behind the school: "Our students have logged 52 species of plant life on our site," says Principal William Clarch.

U: 49



ANGOLA MIDDLE SCHOOL; ANGOLA, INDIANA

they have the answer." says William Church, the school's principal, "MI of the questions are developed from that week's studies. It's very student-driven, and the kids have a lot of fun with it." "Kids at this age level work better when they have a chance to get up and move around," says language arts teacher Joe Kennedy about the largegroup instruction room, "You can really move around in there—split the students up into small groups and give them a little more freedom. Their brains seem to work quicker when we let them get up on their feet."



ring construction, there is a big plywood wall ville media center."
In science tencher Gary truey: "We had the deats paint a Wall of spect." The kids could ign a section and put up wething about anyone view properties a different their on the had affected their it and I don't think ybody walked away thout a tear in their eye."

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CHALLENGE

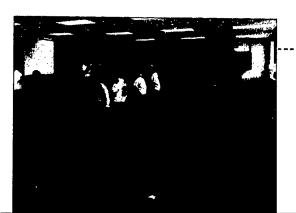
MARCH MADNESS

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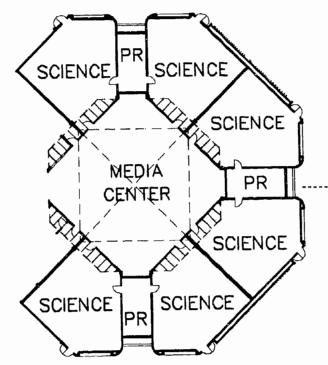
AN ASSIGNMENT FROM "MARCH MADNESS."
A THEMESUNELUSED AT ANGOLA MIGDEL
SCHOOL IN ANGOLA, INDIANA.







Science rooms at Lincoln Middle School in Indianapolis. Indiana, incorporate computers on ledges-abore the lab stations and away from sinks.



The science labs at the new Crestriew Middle School in Huntington, Indiana, are clustered around the media center at the core of the academic wing. Two science classcooms are positioned directly across the hall from each of the grade-terrt pods. caubling the science program to work as part of the team units. Grouping the rooms at the grademic core also allows the program to work as a department. Proximity to the media center-which features a large skylight also enables the science rooms to take advantage of the natural light.

During a recent expansion, Reynoldsburg Junior High School in Reynoldsburg. Ohio, gained new science facilities. Operable walls enable classes to work as a targe group. Each room features multiple sinks and built-in cabinetry.

> Colorful cubiaetry and perimeter lab stations highlight the spacious science rooms at Woodridge Middle School in Peninsula, Ohio.

> > 1t Hamilton Southenstern Junior High School in Lishers, Indiann, ample natural daylight supports

BEST COPY AVAILABLE

instruction in plant life.

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"OUR LUNCH PERIOD IS VERY LOUD WHEN COMPARED TO ACADEMIC PERIODS, AND THAT'S OUR CHOICE. WHEN THE STUDENTS COME BACK FROM THE LUNCH BREAK, THEY'RE READY TO FOCUS."

—Tom McKenna, Principal, A.I. Boot Middle School: Medina, Ohio

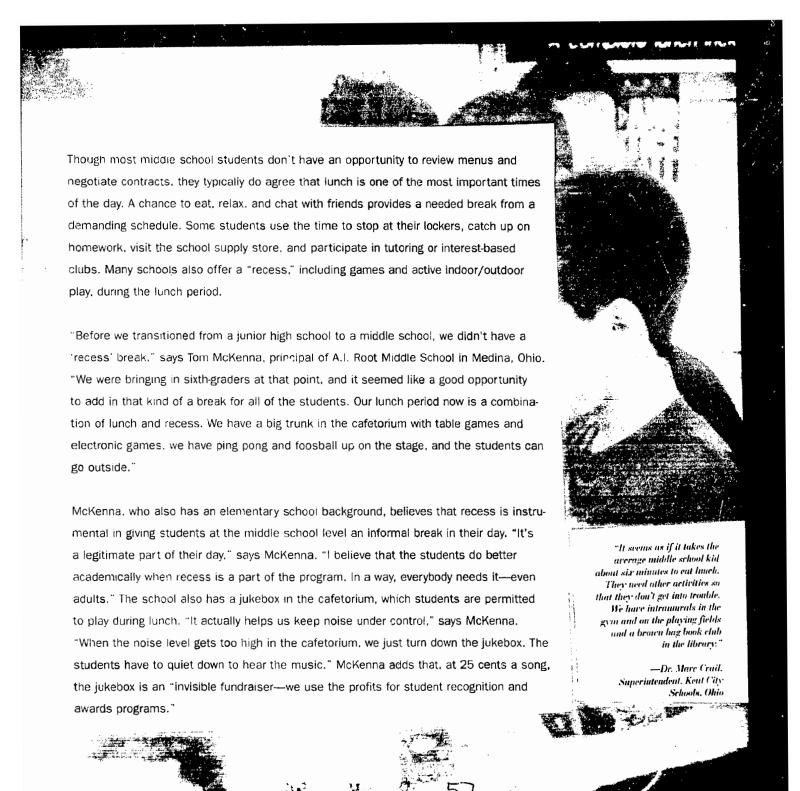
TIME TO EAT, SHOP, AND PLAY

LUNCH: 1.2:00-12:45

Students at Meridian Middle School in Buffalo Grove, Illinois, have a special reason to appreciate their lunch break: they were instrumental in choosing their own food service vendor. Several fifth-graders recently took part in a comprehensive research project in which they surveyed other schools about their food service programs, then—using classroom telephones—contacted vendors about services and menu options. When it came time to negotiate, the students took part in the process and helped make the final selection.

The cafeteria at Meridian Middle School ia Buffalo Grove, Illinois, has an operable wall (right) that opens into the gym for large assemblies.





TIME TO EAT, SHOP, AND PLAY

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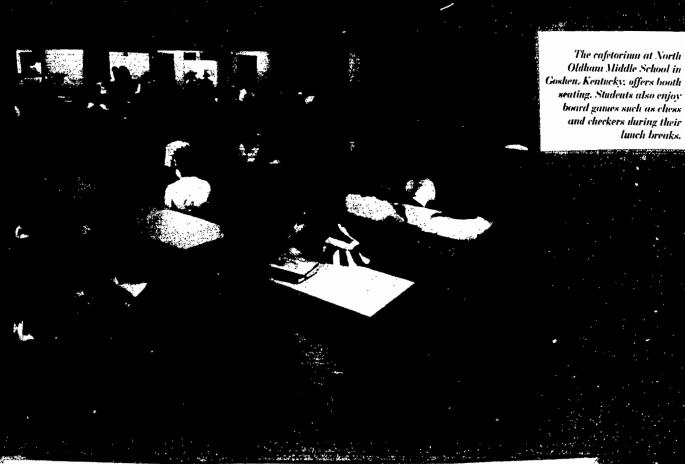
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The anditerns at Aronduly Middle School in Rochester Hills Michigan tentures a freed floor find a cursed stage with acoustical panels and malic feed lighting system



Ample natural daylight, acoustical treatment, and durable turnshings and floor treatment are appreciated for a solution treatment are appreciated for a solution genzes many purposes. Including assemblines and performances in the schools option and become a stage advanced to the during up ice. A caleborary type are residenced instage of one made the treatment features and teachers are that the come appropriate solutions are that the come appropriate solutions and the come appropriate solution and the come appropriate solutions and the come appropriate solutions and the come appropriate solutions.

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The cafetorium at North Oldham Middle School in

and checkers during their

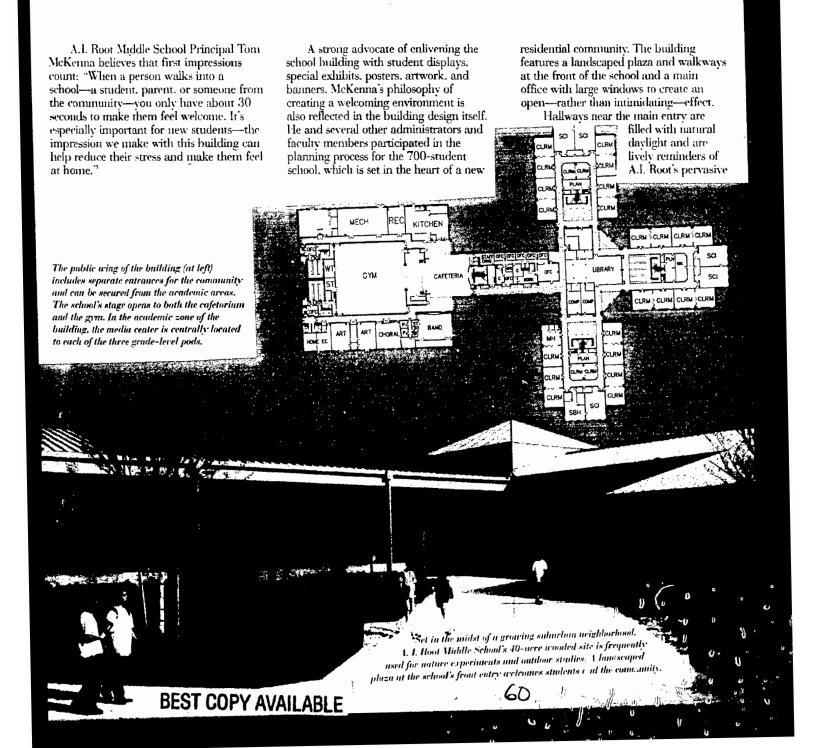
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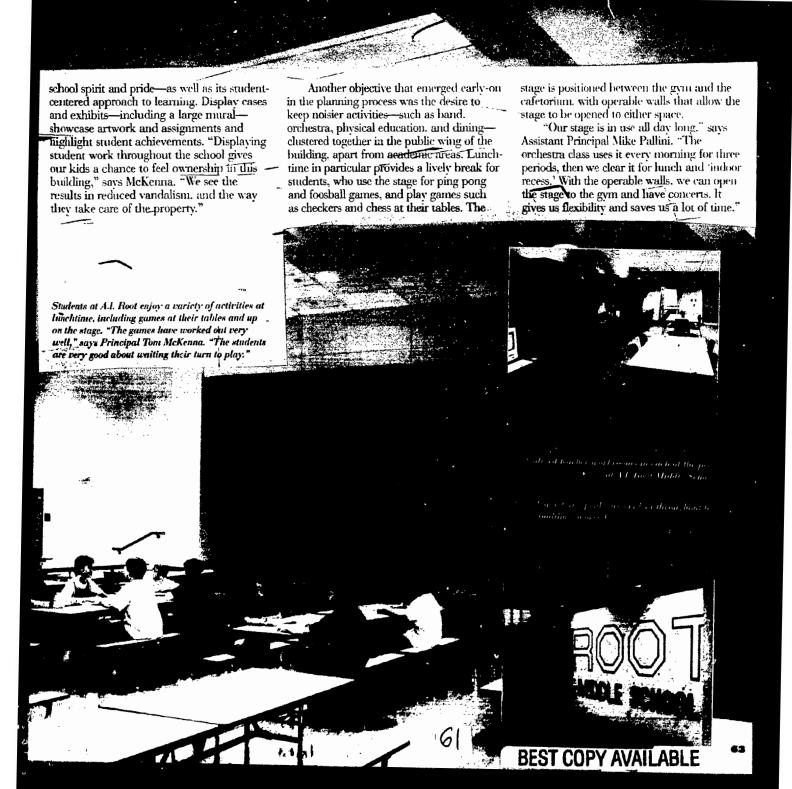
Regardless of whether a middle school incorporates a traditional cafeteria, a cafetorium, or an auditeria, versatility and size are important considerations: "We get a tremendous amount of use out of our new auditeria," says Virgil Taueg, principal of Lincoln Middle School in Indianapolis, Indiana. "On a daily basis, the space is used for many activities-but since this school opened, we've also been able to do a lot of special functions that we could never have done before. On Grandparents' Day, we had 600 kids and over 175 guests. If we had tried to do it before, in our old cafeteria, those grandparents would have had to sit on top of the tables because there wasn't enough room! And on the same day, when the grandparents

left after lunch, we cleared the auditeria and had it set for a school board meeting that

evening. It was entirely transformed."

1; ...}





TIME TO EAT, SHOP, AND PLAY

"I think our selval store is a really good idea because we can get a lot of supplies that we need. There are pens and scissors, crayons—anything that you have can out of and need to replace."

—Brittany Sarmus, Fifth-Grade Student. Meridian Middle School: Buffulo Grove, Illinois

> The auditoria at South Vermillon Middle School affers round and-rectangular scatting. Adjustable tables provide added comfort for middle school students, regardless of height.

Students at South Vermillion Middle School in Clinton, Indiana, have a chauce to visit the school's book and supply store during their lunch period.

A Posifive School CLIMATE

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THE NATIONAL MIDDLE SCHOOL ASSOCIATION.
THIS WE BELIEVE, 1995.



n Muncie. Indiana, Wilson Middle School's food service program ves a "scatter" approach that enables etudents to choose from a

uriety of food stations, including a salad bar.

The cafeteria at Wilson Middle School also serves as a lobby and commons/surge space for the school's auditorium, natatorium, and two gymnasiums.







BUILDING BRIDGES...AND MAKING A HOME

"AT THE MIDDLE
SCHOOL LEVEL IN
PARTICULAR, WE NEED
TO CAPITALIZE ON THE
STUDENTS' INNATE
CURIOSITY AND ENERGY
LEVEL—WE NEED TO
GIVE THEM A VARIETY
OF OPPORTUNITIES TO
EXPLORE."

—Dr. David L. Sawyer, Superintendent, School Board of Brevard County, Florida

BUILDING BRIDGES ... AND MAKING A HOME

APPLIED TECHNOLOGY

M/W/F 12:50-1:40

HOME ECONOMICS / FASHION LAB

T# TH 12:50-1:40

"My role as a teacher has always been to motivate and educate," says Tom Milam, industrial technology teacher at South Vermillion Middle School in Clinton, Indiana. "Now, our new lab—with all of its technology—provides a lot of that motivation. The students love it, and their energy level has been unreal. It's changed my role—I spend less time motivating and more time educating."

Many of the computers in the industrial technology lab at South Vermillion Middle School in Clinton, Indiana, are linked to machinery and tools. Students turn on a light above their modules if they need extra help from their teacher, who is able to facilitate and work one-on-one as acceded.



The opening of the new South Vermillion Middle School, which replaced a long-outdated building, provided an ideal opportunity for a transition from a traditional industrial arts curriculum to a modern, applied technology program—a crucial change according to Milam. Like many school districts around the country, the South Vermillion Community School Corporation has incorporated a modular approach to its technology program—allowing students to participate in a variety of hands-on tasks, such as operating a computer-controlled lathe; analyzing and building a small engine; building and operating a robot; using a wind tunnel; building model rockets; and studying aerodynamics, energy, power, transportation, and structural technology.

Advanced technology programs at the middle school level typically offer "hands-on/ minds-on" environments to students. I "Make Your Own T-Shirt" unit includes studies in graphic design.

Rolland Voris, a technology instructor at Lincoln Middle School in Indianapolis, Indiana, offers a similar assessment of his school's program: "Our industrial arts program has really evolved over the past few years," he says. "The computer-driven, modular lab approach to instruction has really come into its own. It's an interactive approach, capturing instruction, reading material, assignments, testing, and evaluation. As a delivery system, the modular approach actually gives us much better class-room management and accountability. It saves instructional time on a day-to-day basis, and allows us to facilitate more—it gives us more time to plan and manage the students' work.

"Most importantly, the students have more fun." Voris continues.

"They're able to focus more on discovery and problem-solving. They really begin to understand the processes behind manufacturing, or the steps involved in animation. And the approach has also enabled us to broaden the scope of study—they're not just working with metal and wood, they're learning everything from computer graphic design to fiber optics and lasers."

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BUILDING BRIDGES ... AND MAKING A HOME

A number of workplace skills, such as communication and teamwork, are also integral to applied technology programs at the middle school level. "Students need to be able to read technical manuals, write reports, work at a keyboard, and get along with other students—just as they will when they are employees," says Dr. David E. Sawyer, superintendent of the School Board of Brevard County, Florida. "It's impossible to prepare them for all the specific skills that they may need, because today many of those skills are unique to each employer. We want the students to have basic occupational skills and an understanding of decision-making processes that are relevant to the workplace.



A suite of classrooms featuring automated, modular instructional units serves the applied technology and home economics programs at Discovery Middle School in Grunger, Indianu. Students entering the classrooms determine the day's assignment by rhecking electronic message bonds—another time-saver for the teachers.

"We focus on the 'Three R's,'" says Dr. Sawyer. "First, the curriculum in applied technology should be relevant. It should be practical in terms of the students' day-to-day lives. The studies should also be realistic—they shouldn't be make-believe. Naturally, we want the students using keyboards, not manual typewriters; and microwave ovens instead of coal-burning stoves—but this applies to all of the technology program. It's why, for example, we're seeing more industrial technology programs—with lasers, biotechnology, and robotics—instead of an emphasis on traditional woodworking. The new curriculum is still hands-on—students manipulate, construct, and analyze—but it has more practical applications for today. Third, we want the technology program to be rewarding," Dr. Sawyer continues. "We want the students to appreciate and value what they're learning, and to enhance their abilities to achieve their aspirations."

Is there still a role for the traditional shop activities—with hammers, saws, and drill presses? Most administrators and teachers agree that there is a need for this aspect, but the focus—and facilities required to house these activities—have been minimized in many schools. "Fabrication is still important," says Dr. Sawyer, "because it gives students the opportunity to work with raw material through to the finished product. Overall, however, we've moved to a much more technological program."

Tom Alexander, principal at the new Crestview Middle School in Huntington, Indiana, agrees. Within the school's "Related Arts" program—encompassing industrial technology, computer education, home economics, art, band and choir, physical education, fitness, and wellness—the industrial technology program in particular has been transformed over the past few years. "Most of our program in industrial technology is computer-driven," he says. "As a result, it's very student-centered. But I am a traditionalist in some respects—I still think kids ought to be able to do a little cooking, mending, and sewing when they leave here; and we have a small workshop with tools."



Students participate in self-directed, modular instructional units as a part of Central Junior High School's applied technology curricalum in West Melbaurne, Florida.

"When we whip egg whites for waffles, we're talking about physics, and how the egg batter will make the waffles rise," says Lois Hall, a work and family studies instructor at Edgar Allan Poe Middle School in Annandale, Virginia. "When we design and sew beach bags, we're using math concepts—studying dimensions, perimeters, and angles. We're constantly teaching math and science here, but more importantly, we're teaching life skills—not just how to cook and sew, but how to plan, prepare, document, and follow through. The students work independently and in small groups—just as we do as adults in the working world."

Although in many respects home economics and consumer science courses have not evolved as rapidly as other applied technology programs, they are often centered around an integrated curriculum approach that helps to build practical, lifelong skills for students. "We really focus on decision-making skills and working together as a team," says Debbie Bock, family consumer science teacher at A.I. Root Middle School in

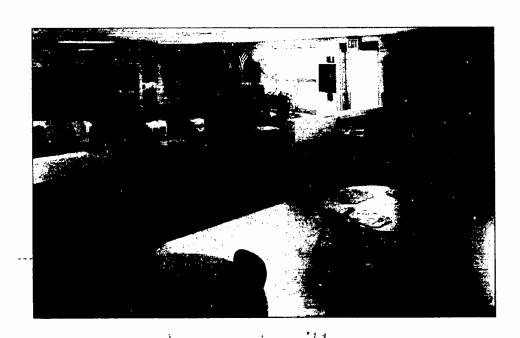
BUILDING BRIDGES ... AND MAKING A HOME

Medina, Ohio. "When the students go on to their careers, they will be working as teams—whether in businesses or factories. They also learn a lot here about time management."

Bock, who has been teaching for 26 years, participated in the planning of A.I. Root Middle School, which gave her an opportunity to help design the home economics space. "We divided the space into a carpeted classroom area and a kitchen with a tile floor," says Bock. "The classroom area is large and flexible, so that we're able to use it for tests, lectures, overhead presentations, or working in small groups. I also asked for a separate space for a laundry area, which has been a big help. Because it's separate from the classroom, it doesn't disrupt the class. Other teachers can access it if they need to without interrupting my class. It's also a good storage area."

In addition to learning broad-based time management and decision-making skills, the students in Bock's class learn many practical, hands-on skills—in nutrition and cooking, child care, and sewing and crafts. "The students enjoy the simple hand sewing projects,"

Teacher Debbie Bock helped to design the home economics classroom at 3.1. Hoot Middle School in Medina, Ohio. She opted for a combination of classroom and kitchen space, with a partial wall dividing the areas. The room also features a separate laundry and storage area.





The home economics classroom at Hamilton Southeastern Junior High School in Fishers, Indiana, features both tiled and carpeted classroom areas, Large mirrors suspended from the ceiling facilitate student viewing of cooking demonstrations.

says Bock. "It gives them a sense of accomplishment. I had one student who went home and took all of his boy scout badges off of his uniform and then sewed them back on—he wanted to do it exactly the way I had taught him."

Lois Hall says that she sees an "immense difference" in her program since the completion of Poe Middle School's recent modernization and expansion. "We had a much smaller area before," she says, "and it was very awkward for a large class. Now we're able to have classroom instruction and lab activities at the same time. The space is also light and airy now—before it was depressing. I really want them to develop a lot of skills and this space is designed to allow a number of hands-on activities.

"The most important thing that I see come out of this class is the development of their self-confidence," Hall points out. "With some projects, students will say, 'I don't think I can do that'—but they can and it really helps their confidence."

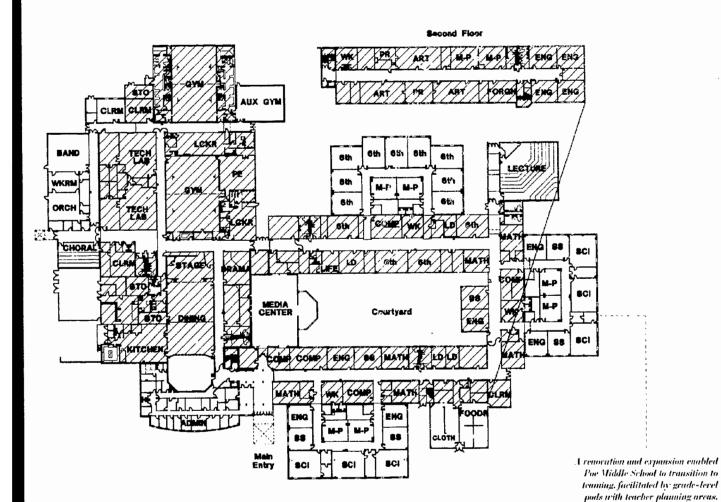
EDGAR ALLAN POE MIDDLE SCHOOL; ANNANDALE, VIRGINIA

According to teachers and administrators. enhanced communications and teaming opportunities are direct results of the modernization and expansion of Edgar Allan Poe Middle School in Annandale, Virginia. "Because of the way this school is designed

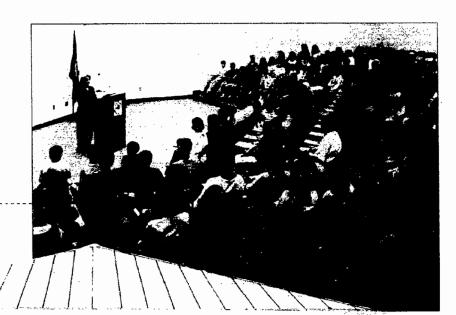
now, our teachers are closer and can communicate better," says Principal June C. Monterio, "I've seen powerful outcomes that result from the informal dynamics that this space allows—teachers are able to say. "Look at what I'm working on," and interact across grade levels, across cisciplines, at

every level."

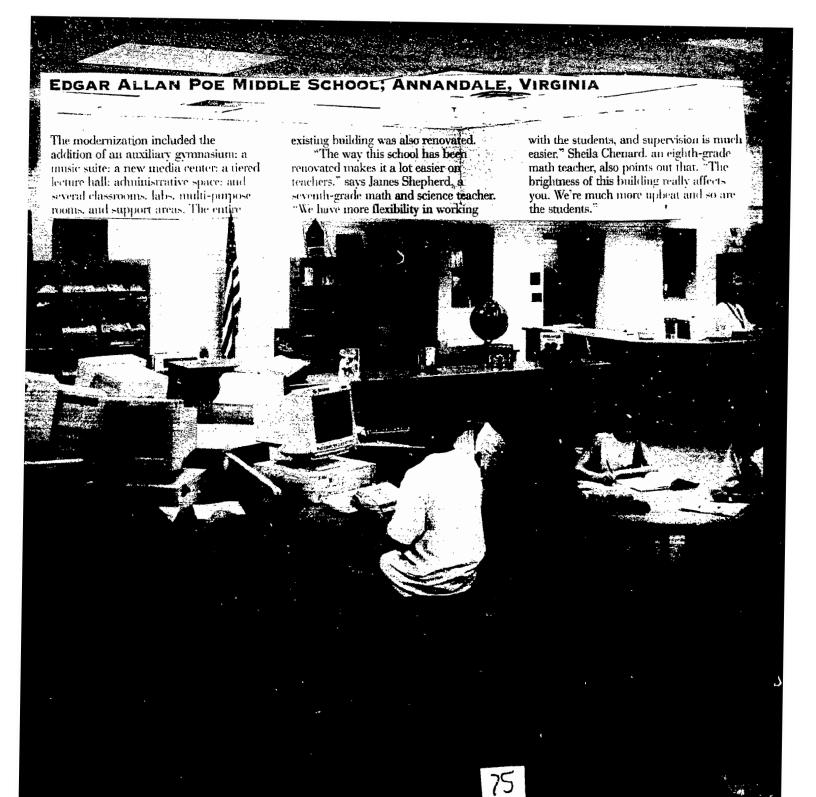
Doe Middle School was reconfigured. from a scienth- and eighth-grade building to a 1,200-student school with grades six through eight.



The new lecture hall at Poe Middle School is in constant use by clusses, as well as administration meetings system-wide, "We use it for skits and dramatic readings," says English teacher Natasha Heny: "It's important for the students to learn to feel comfortable in front of an audience."



ESCHOOL



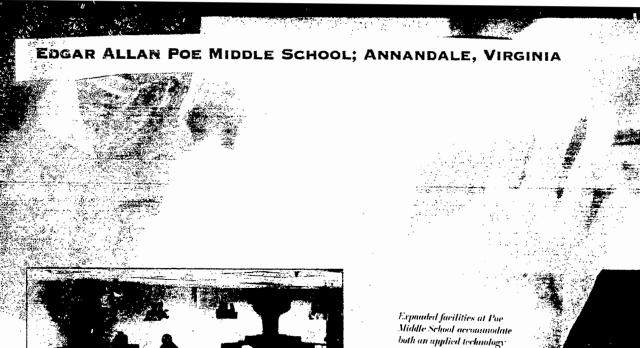
A classroom with a raised platform provides a suitable venue for meetings, presentations, skits, and small awards programs and ceremonies.



Multi-purpose rooms with operable walls add to the flexibility of each grade-level pod.

The renovation and expansion of Poc Middle School yielded a larger, more flexible media center: "The library is excellent now," says Betsy Lockman, a sixth-grade language arts and science teacher, "Two ar three classes can use it at the same time."







Expanded facilities at Pae Middle School accommodate both an applied technology program utilizing a modular delivery system, and a truditional shop area—enabling students to take fabrication projects, such as the constenction of candy machines, from start to finish.

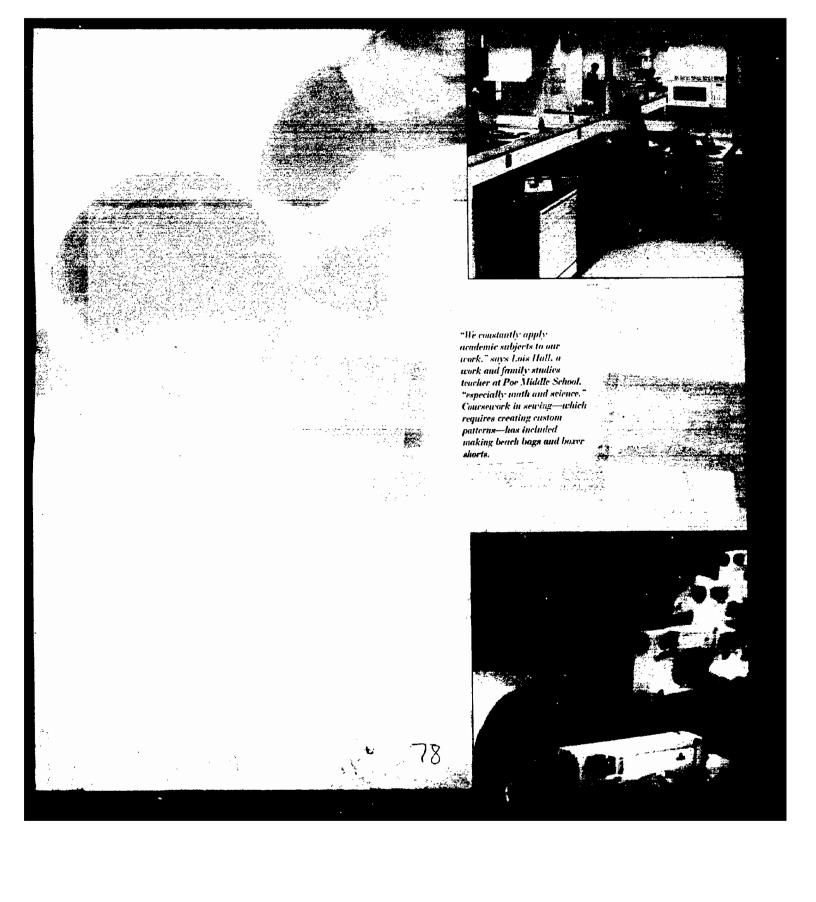


Natasha Heny, an eighth-grade English teacher, appreciates the bright and spacious classrooms that resulted from the modernization: "It's so important to have a comfortable, flexible environment—especially for middle school students."

she says. "They're having a tough time controlling their bodies and their emotions—so the more you can control the environment the better. You need to be able to change the lighting, or the arrangement of the room."

Monterio also credits the design of the

building with making it easier to include and support children with special needs, such as those in the ESL and LD programs: "The pods give them built-in support because they are in constant contact with their team of teachers, who all know them."



CHALLENGE

"MAKING THE FAMILY MEAL"

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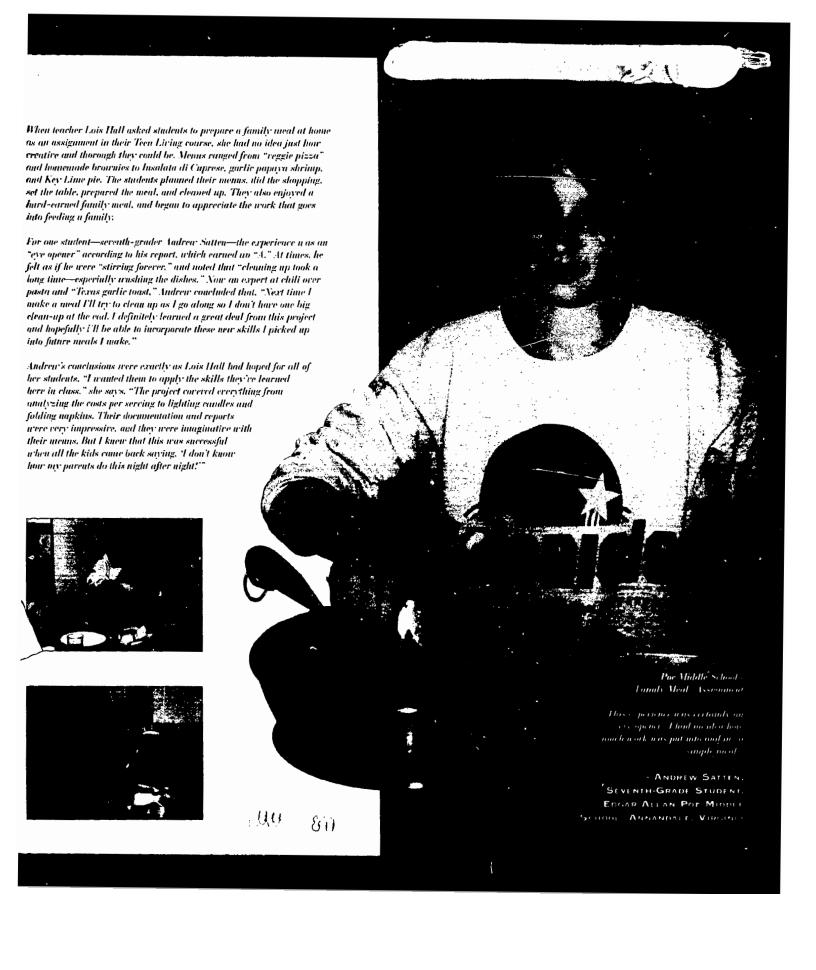
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PIKE TOWNSHIP TECHNOLOGY EDUCATION

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-- FROM THE EDUCATIONAL SPECIFICATIONS FOR THE NEW LINCOLN MIDDLE SCHOOL IN INDIANAPOLIS. INDIANA, STUDENTS AT LINCOLN STUDY A BROAD RANGE OF TECHNOLOGY AREAS—FROM COMPUTER SOFTWARE APPLICATION AND DESKTOP PUBLISHING TO FLIGHT "MULATION AND POBOTICS.





The technology lab at A.I. Root Middle School in Medina. Ohio, features both traditional machinery and computer modules.

Students at Lincola Middle School in Indianapolis, Indiana, participate in a range of hands-on activities, including cooking projects and setting a table.





LESSONS FOR LIFE

"WHAT ARE WE
ACCOMPLISHING IF WE
RAISE CHILDREN TO BE
GREAT ON COMPUTERS,
BUT NOT TO TAKE CARE
OF THEIR HEALTH?"

-Juyne Bennett, Health and Physical Education Teacher: Edgar Allan Poc Middle School, Annandale, Virginia

LESSONS FOR LIFE

HEALTH AND PHYSICAL EDUCATION

M/W/F 1:45-3:00

Take a quick look at physical education programs in middle schools today, and it may not seem as if much has changed over the years. The curriculum still focuses on the basics of health and fitness: aerobic exercise, individual and team sports, strength training, rhythm and dance, recreational activities, nutrition, and personal hygiene. An emphasis on the importance of physical fitness—lessons for life—continues to be an integral part of middle school education.

Take a closer look at these programs, however, and some crucial changes in P.E. instruction become apparent. First, the delivery of instruction has evolved: teachers are tapping into more creative opportunities to introduce fun sports and recreational activities that can be enjoyed throughout life, such as in-line skating, golf, tennis, and aerobic dance. Informal competitions, such as school-based "Olympic" challenges in a variety of sports also help build enthusiasm and individual and team commitment. Many of these tournaments and events are organized and managed by the students themselves, as an added measure of engaging children in the overall competition.

Technological resources have enhanced the scope of P.E. instruction, including heart monitors, computer-based instruction programs, Internet research sites, and multimedia presentation tools. Instructors are also broadening fitness programs to include a greater emphasis on classroom-based learning, enabling students to focus more readily on

health and nutrition issues, substance abuse, disease prevention, anatomy, and mental health.

Facilities housing physical education activities have evolved as well—in part to accommodate program changes. If financially feasible, many schools at the middle school level opt for both a spectator gym and an auxiliary or "practice" gym, which helps to accommodate expanded schedules for team and tournament sport use, intramurals, practices, and community use. Girls' sports in particular have benefited from increased access to gymnasium facilities, and the operation of two gyms simplifies daily P.E. scheduling—especially during inclement weather when outdoor fields and structures can't be used.

Facilities for P.E. now routinely incorporate classrooms near gymnasiums and weight rooms. "The classrooms are really important for pulling students in for a lesson on how the cardiovascular system works, for example, or studies in nutrition and health," says Sheila Toth, a physical fitness instructor at Discovery Middle School in Granger, Indiana. "When they are all sitting on the gym floor, it's hard to get them into that mode of learning—it's difficult for them to focus and take notes. When they're in the gym, they really want to play."

"Having the health classrooms near our gym area has really helped our program and saved us a lot of time," says Jayne Bennett, a physical education and health teacher at Edgar Allan Poe Middle School in Annandale, Virginia. During a recent modernization, the P.E. area at Poe Middle School was renovated and expanded, which included adding an

: 4. 1

The North Oldhum Middle School Mustangs play before a home crowd in their new 9,200-square-foot gymnasium in Goslum, Kentucky: "I like the auxiliary gym we have now. It's nice to have a separate gym where we can practice at night and everything is not so crammed. And the girls can practice, and practices aren't so late at night because there are two gyms."

—Leah Seevers, Lighth-Grade Stadent, Angola Middle School; Angola, Iadiana



LESSONS FOR LIFE



auxiliary gym and two classrooms for health instruction. "The permanent health rooms have enabled us to bring in more resources and exhibits," Bennett says. "We no longer have to lug materials around to different classrooms to try to teach health. It really confirms that health instruction is not just an afterthought, but a vital part of the curriculum."

Perhaps the most important change in P.E. instruction in recent years is that the message itself—take care of your health—has become significantly more urgent. "We're raising a generation of unhealthy children," says Bennett, who has been teaching P.E. for nearly 30 years. "Many of these students eat enough fat in one meal to last three days, and then we wonder why they're so lethargic."

Studies prove that Bennett's concerns are not misplaced. "A lack of physical activity has resulted in American children becoming more obese since the 1960s," reports the Educational Resources Information Center in "School Children and Fitness: Aerobics for Life." The report cautions that "this increase in body fat is responsible for reduced cardiovascular capacity which in turn limits a child's ability to resist coronary heart disease. In addition, a lack of physical activity accounts for a host of diseases including hypertension, diabetes, impaired tolerance for heat, and various psychological disorders...As children become older, there is a strong tendency for them to participate less in physical activity. The drop in such participation between the ages of 12 and 18 is dramatic." ¹

Additional reports confirm that the percentage of overweight children is increasing. A "National Health and Nutrition Examination Survey" conducted from 1988 through 1994 by the Centers for Disease Control shows that approximately 14 percent of children ages

¹ Hinkle, scott L., School Children and Litness, Aerobies for Life, ** LRR Digest, December 1992.

12-17 are overweight—an increase of six percent from 1980 to 1994.² A *Shape Up Americal* poll, commissioned by former U.S. Surgeon General C. Everett Koop, documented the decline in activity levels among Americans of all ages: "Physical activity—which has been shown to prevent and manage such life threatening diseases as heart disease, hypertension, and diabetes—is one of the most consistent and positive forces associated with successful weight management. But data from the recent Surgeon General's Report on Physical Activity and Health indicates that 25% of American adults are not getting any exercise at all; another 40% are nearly sedentary." The findings also indicate that "teens and children are less active today than they were a decade ago," and that nationwide there is a "general attitude of complacency about children's activity levels." ³

"When the students come in and begin to learn the basic elements of health and nutrition," Bennett notes, "they begin to make changes. And when they can enjoy a variety of sports and recreational activities in safe, well-equipped, air conditioned facilities, they begin to look forward to it. It's so important to teach kids to like exercise. For example, requiring that kids run as a punishment sends the wrong message. We do need to have discipline and structure in the program to ensure safety, but we need to make it fun.

"We also try to encourage kids to take what they learn here about exercise and share it with their families," Bennett adds. "Many parents today are afraid to let their children go outside to play, and that's had an impact on their physical fitness. We encourage them to get out with their families and walk or ride bikes. I'm a preacher when it comes to health, and I want it to stay with them for life."

² U.S. Health and Flamman Services' Centers for Disease Control Marchidity and Mortulus Weekly Report, March 6, 1997.
Shape Up Americal Survey on Physical Activity in the U.S., May 1995.
ET

DISCOVERY MIDDLE SCHOOL; GRANGER, INDIANA

"Our program—and our facilities—are very progressive," says Sheila Toth, physical fitness instructor at Discovery Middle School, "The facilities allow us to present an integrated fitness/health curriculum. Our program is nothing like the 'gym class' of years ago. Kids hated it, and it was stressful. Our whole focus is training for life."

The physical fitness area at Discovery Middle School includes a spectator gym

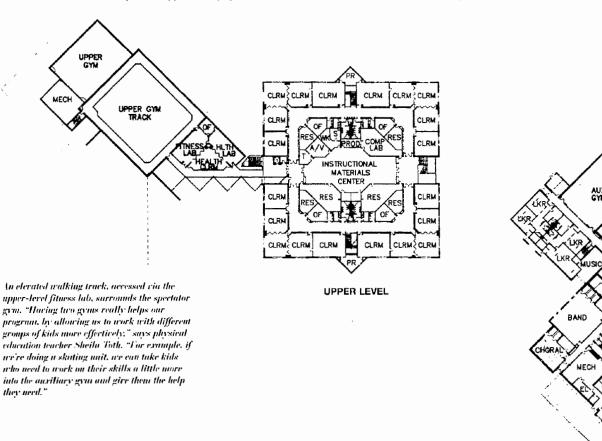
BTUDENT CHENC

with seating for 750, an adjacent auxiliary gym, and locker areas on a lower level; with a walking track area and fitness lab on an upper level overlooking the main gym. The fitness lab includes a training area with strength and cardiovascular conditioning machines, classroom space with operable walls, and an office.

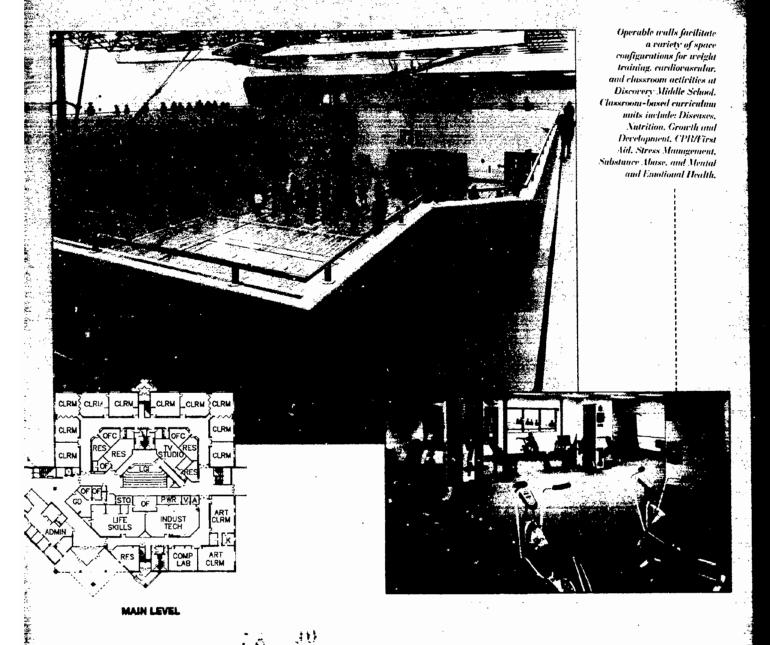
"We spend about half the time in physical activity and the other half in classroom/discussion-type activities." says Toth. "The movable walls really help us—we can use the lab/classroom space as one room, two rooms, or three. Kids can go up there and work out on the machines for 20 minutes, and then we pull them into a classroom setting for lessons or work on their portfolios. We have a student-centered approach to instruction, in which we act more as facilitators in the classroom. The space is very curriculum-friendly."

GYM

DINING



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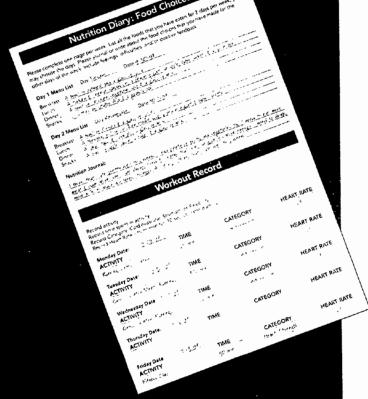


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NICHT

TRAINING FOR LIFE!

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Andrew Herman Commission on Spirite.

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New locker rooms were added during the renovation of Thomas A. Edison Middle School in South Pend, Indiana.





A natatorium at Oak Hill Junior/Senior High School in Converse, Indiana, features a pool with a movuble bottom.

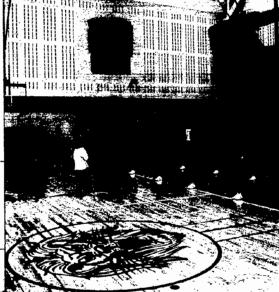
Home of the Wildcats, the gymnasium at South Vermillian Middle School in Clinton, Indiana, seats 1,000 spectators.



Modernization of Thomas A. Ldison Middle School incorporated a new training room for curdiovascular and strength training.

LESSONS FOR LIFE

The 10,000-square-foot main gramusium and a smaller P.E. gramusium at Lincoln Middle School in Indianapolis, Indiana, are housed in the public wing of the school. Large starage areas, locker rooms, restrooms, and showers divide the two grass.







The natatorium at Wilson Middle School in Muncie. Indiana, features a six-lone, 25-yard pool. The pool is in constant use by students and the community.

Maple locker room space for boys and girls is included at Sumaan-Dearborn Middle School in St. Leon, Indiana.

WOOD OR SYNTHETICS?

The Howen come over those south neard surfaces has been a bug major or ement for as a save having Beauty, physical administration to achieve the Allem Pow Middle School in Annandale Anginia. Before we have a sphull those of the mood is much easier any our less.

White a nort thous—typicalis, composed of a hard magical and clearly best to a buskethall, other options, such as earlier polymetham—and other synthetics are preferable for rolleyball, paging acrobias and many other gymeath atus. Many school systems must factor an community use as well as student use an acreptang the decision on hour passistace gymethous. Maintenance requirements should also be considered a hile both monat and synthem thous are distable, some synthetics may become shek when dusty as constabled staff weed to be able to clean the surface routinets. Although monal is made expensive the ability to said the floors to a new family every few years adds to the attractiveness of this option.





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CREATIVE Expression

"STUDENTS AT THIS
AGE NEED TO QUESTION
AND EXPLORE—AND
THEY NEED TO EXPRESS
THEMSELVES. THOSE
QUALITIES ARE A GOOD
FOUNDATION FOR THE
ARTS."

—Dr. James J. Bird. Superatendent. Avondale Schools: Auburn Hills, Michigan

CREATIVE EXPRESSION

RELATED ARTS:

GENERAL MUSIC/BAND/ORCHESTRA/CHOIR

ART/DRAMA

T/TH 1:45-3:00

The large chalkboard in Meridian Middle School's art room is a favorite with the students. The room features a double-sided gluss display case that also faces the hallway, tables with large work surfaces, and room for easels and computers. At Discovery Middle School in Granger, Indiana, the art room and display areas for showcasing art projects are favorites with the students. "We have a good facility for art," says Nancy LaDuke, a seventh-grade student. "Our work is on display—it's not always the most artistic, but the teacher tries to display work that shows the most effort." Eddie Beebe, also a seventh-grader, adds, "It makes you feel proud."

At an age when the world suddenly begins to seem both complex and demanding, middle school students often discover that visual and performing arts programs offer a special opportunity to explore their sense of self and their creative potential. The arts—whether singing, painting, sculpting, dancing, acting, composing music, or playing an instrument—require students to reach within and engage their own sense of self exploration and expression.



"Visual and performing arts are among the few disciplines that educate the right side of the brain." says Edmond R. Guay. a drama teacher with Avondale Schools in Michigan. "The arts touch on philosophy, intuition, and expression. Performing arts in particular encourage students to look at and feel things from a different perspective—much different from sitting at a computer, solving math problems, or reading a book. Theatre exposes kids to a whole different way of problem-solving. Self esteem is only part of it."

"We have an art show here every day, because the students' work is on display year-round," says Jan Benkoske, art teacher at Meridian Middle School in Buffalo Grove, Illinois. "It's not a once-a-year occasion. I assume that all children do their best, and every finished work should be on display." Benkoske assisted in the school's planning, and was able to contribute ideas regarding specifications for the art room in particular. "I like having glass showcases because things are protected," she says. "We do a lot of ceramics, and the students feel better knowing their work is safe."

Benkoske also points to having a separate room for the kiln as an important attribute—allowing more open space within the classroom itself and creating a safer work area. She also requested a full-length chalkboard along one wall, which is used constantly. "It's wonderful," she says. "Once you start to draw, and the kids are feeding you ideas and you're trying to brainstorm, the last thing you want to do is cram all of these things together. You just want to build and build—recognizing their ideas and including them in what you're doing. The large chalkboard really facilitates that idea."

In addition to display space, adequate lighting, and the inclusion of several sinks for clean-up, most art teachers agree that the keys to a successful art classroom are storage and space. "You could probably give me a room as big as a football field and it wouldn't be big enough," says Dale Orman, art teacher at South Vermillion Middle School in Clinton, Indiana. Still, Orman says that her art room at the community's new school is a big improvement over the previous space—bigger and lighter, with more storage and display space. "The students do much better work here," she says. "Before, we could never do sculpture, for example, because there was no room for it. But last year, with our new art room and the ability to do sculpture, we entered a competition and won every division in sculpture in our age group."

CREATIVE EXPRESSION

Similarly, music teachers point to the need for adequate space and storage—for large and small instruments, sheet music, props, and wardrobe items. Many music suites are positioned near the school's stage, and feature dressing rooms; storage closets for uniforms, robes, and costumes; music libraries; and soundproof practice and ensemble rooms nearby. Portable risers or built-in tiers in the music classrooms facilitate group practice sessions. In band rooms in particular, appropriate floor space and ceiling heights are critical to maintain an adequate—but not deafening—volume. Sinks and instrument repair areas are time-savers and help in teaching students about the appropriate care and handling of instruments.

As in other academic areas, computers are becoming integral to research, instruction, and composition in art and music, with many schools opting to include electronic music labs and



The spacious music room at the new Lincoln Middle School in Indianapolis, Indiann, helps to support an ambitions middle school music program.

The music room at North Oldhum Middle School in Goshon, Kentucky: features a mirrored wall and portable risers.



portable computer stations within art classrooms. "We've got 16 music keyboards hooked to 16 computers." says Brant Moore, a band and music teacher at the recently modernized Angola Middle School in Angola, Indiana. "I'm able to do an eighth-grade music class now that is basically a composition class where they're learning to write music and put it on the computer. It's something we simply couldn't do before."

"It's our job to educate the whole student," Edmond Guay, of Avondale Schools, says. "It's important to find a way to reach them—whatever it takes—whether it's putting students in front of computer screens, putting them on the wrestling squad, or putting instruments in their hands. We need to reach them one way or another, because once a kid's brain is turned on, there's no turning it off."



Unew music suite at the recently modernized Augola Middle School in Augola, Indiana, Indiana instruction and practice sessions. Unsers were perviously held on the school's stage.

"THE LANGUAGE OF ART"

"Art, too, is a universal language—perhaps the most erocutive form of human expression. Through singing and painting and dancing, it is possible for people of different backgrounds to communicate powerfully their feelings and idea. The arts give rise to many coices, and make it possible for people a ho are socially economically, and ethnically separated to understand one another at a deeper more but entire level. The arts help build community."

- ROM THE BASIC SCHOOL: A COMMUNITY FOR

The music room at 4.1. Boot Middle School in Medina. Ohio, features fabric-wrapped acoustical panels and builtin storage for musical instruments.



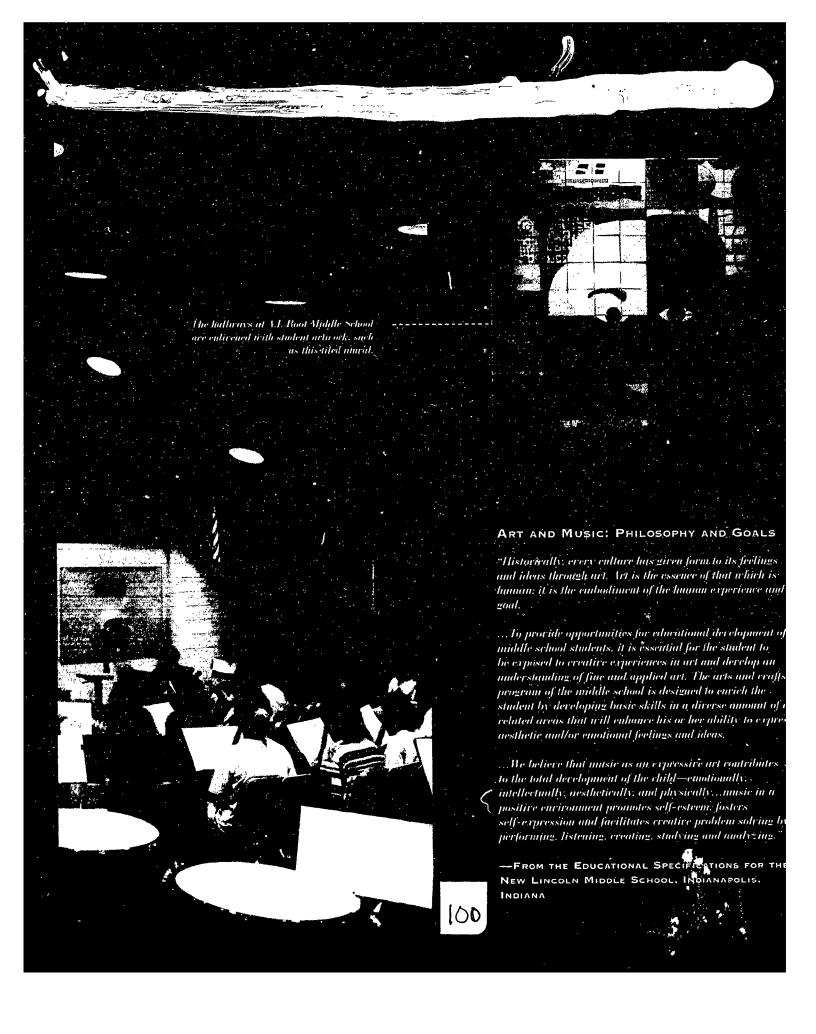
The net rooms are very new - what a change," says Belsy Lockman, a language acts and science teacher at Lagar Allan Poe Middle school in Annualale, Virginia, "They're nice and bright—its annuzing what light can do."



Sen one and the succession blooms succession



A. J. Grand M. R. Schmadt and C. Martin, Phys. Rev. Lett. 15, 127 (1997) 1997.



AVONDALE MIDDLE SCHOOL! ROCHESTER HILLS, MICHIGAN

Design of Avandale Madelle School in Right for Hills, Abelingan was a Association Hills, Abelingan was a Association Review Committee included solved sadministrations for the second metallic and selected beard around size. Considered to himse 600 structure in the second made ighth grades. Would

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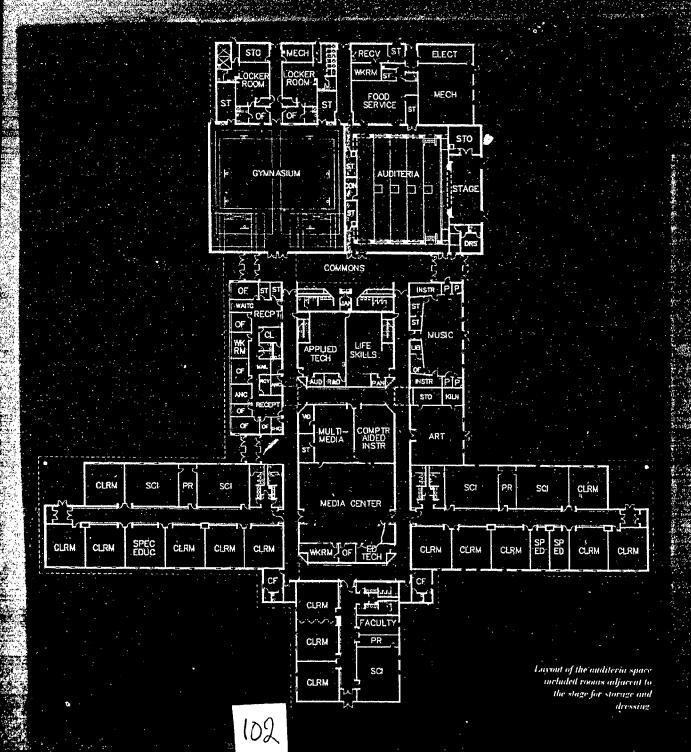
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primarily as performance of according 5.35 separation to duy also serves as the school caterial is saying 5.50 for diming and up negotial for performances. The audicina (season) sound and lightness is a multiple velocity and has a multiple velocity them.

Set on a 22-acre life, Aroudale Moddle School accommodates deal students in a 104,000-square bool building. Tendlers, students, and purents a cre active to the planning process for the school.





AVONDALE MIDDLE SCHOOL; ROCHESTER HILLS, MICHIGAN

That audic on is one of the most. It equeuply used to dines to our district says Dr. James C. Birds superintende in of Avondale Schools. It's used for drama productions unused as awards presentations paieur meetings, all kinds of events it's a very distible tacility that books good has good acousties, and has been very durable.

The audie on his ziven one took distinct a performance space deal is more unfinate and appropriate to production that are not as extravigant as those performed in the high school audionion says drama reaches I dinond B. Gross who helped plan the facility and course the middle schools drama program. Its sayers competent theatiful years with

balague d'agenstre and good genral ledgines and selectines. The space also: aves can students an opposition of learn the nechineal selected allemie

Budding this audicina validates what our students are doing in performing arts—says thrave. It says that this district field viscorithe arts, and its made people realize how unportaint the program is.

The stage in Acondale Vliddle School's muliterar is used regularly by the drama class and the drama class and the drama class, as well do the masic programs. During the day, the space also functions as a cafeteria and a start half-furthated by-partiable tables and starking-classes.



The auditerm at Arondule Middle School—pagniar for both school and community creats, seats nearly 600 for performances A control room is located at the back of the facility with follow spot-lighting bays algore

TUDENT

"THINK LIKE AN ARCHITECT"

Study the art room as a fact you are not nearking, and think like apayehiteet. What do you like best about this room? How could this room be even more wonderful if you could have design input?

"THE CHALKBOARD IS HUGE AND EASY FOR EVERYONE TO SEE. I WOULD MAKE ANOTHER ROOM FOR COMPUTER ARTS FOR VIRTUAL DRAWINGS."

"I LIKE THE TV AND HOW IT COMES OUT OF THE WALL."

IF WE MADE IT MORE HIGH-TECH, WE COULD ADD

LAPTOPS IN ALL THE DESKS AND GO ON THE WEB TO

LEARN, I THINK WE SHOULD ALSO MAKE THE SCHOOL

ENVIRONMENTALLY SAFE BECAUSE OF GLOBAL WARMING."

"I LIKE THE DISPLAY SHELF BECAUSE YOU CAN SEE THE OTHER PEOPLE'S WORK."

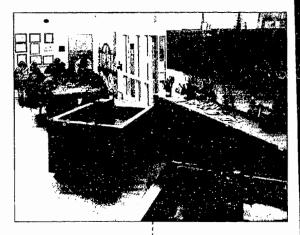
"I THINK THAT THE BEST PART OF THE ART ROOM IS THE CHALKBOARD. IT IS VERY BIG AND HAS LOTS OF ROOM. IT COULD BE BETTER IF WE KNOCKED OUT THE FIFTH-GRADE SCIENCE LAB AND MADE THE ART ROOM DIGGER."

"THE BEST PARTS OF THE ART ROOM ARE THE CEILING AND THE CABINETS. IT WOULD BE BETTER IF THEY PUT THE PAPER TOWEL DISPENSERS SOMEWHERE ELSE."

"THE BEST PART IS THAT THE ROOM HAS FOUR SINKS FOR MORE CONVENIENCE. I WOULD PUT A SPECIAL PLACE TO HOLD PAINT CONTAINERS."

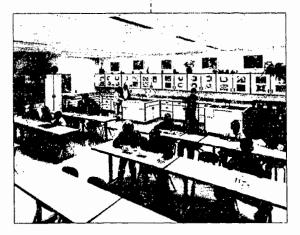
"I LIKE HOW THE CEILING GOES HIGHER AND HIGHER. I WISH THE WALLS WERE PAINTED LIGHT PURPLE OR BLUE OR MULTI-COLORED."

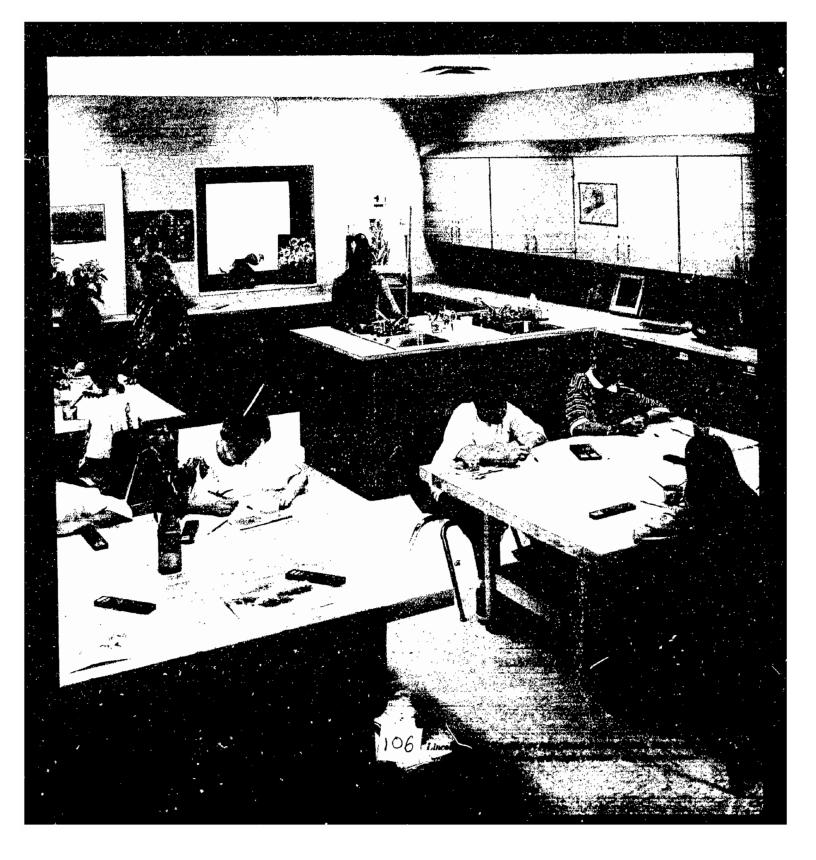
- Assignment given by Jan Benkoske, art teacher at Meridian Middle'School: Buffalo Groj e, Illinois

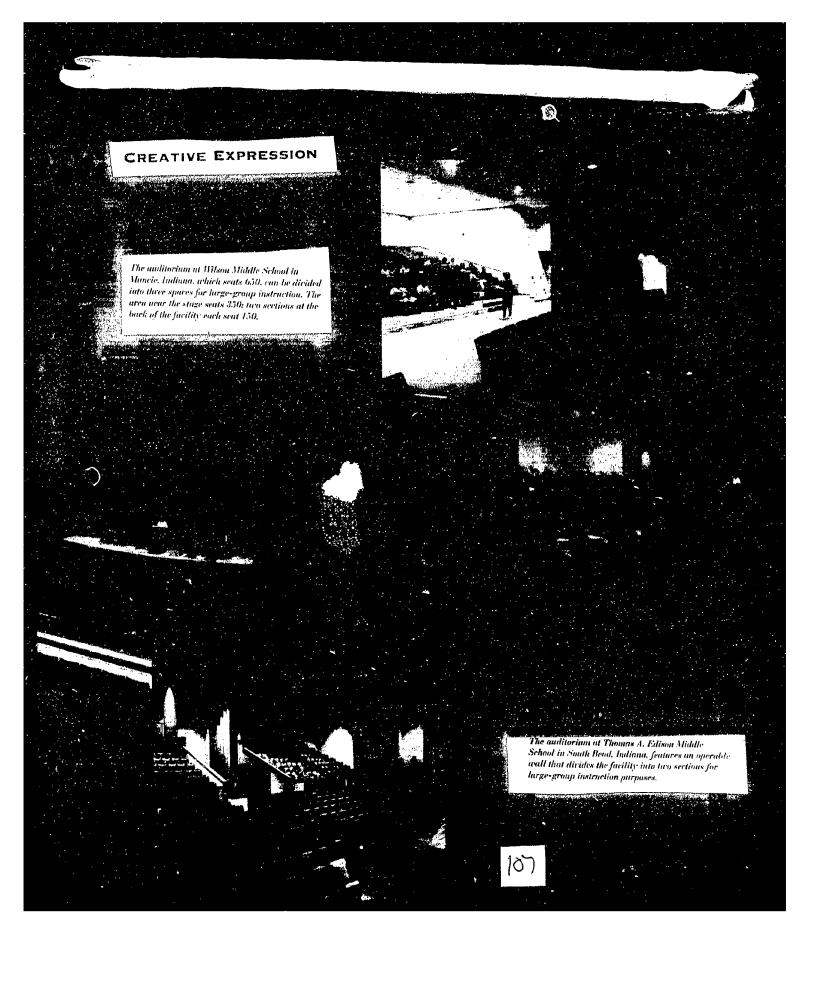


Large sinks facilitate clean-up in the art room at Williamsburg Middle/High School in Williamsburg, Ohin,

The art room at Bloomington Junior High School in Bloomington. Himois, is brightly lighted with tile floors, a carriety of storage options, and a separate room for the kiln.







Chair students at Hamilton Southrastern Junior High School in Lishers, Indiana, are seated on curpeted, seun-circular tiers. Hat floor space at the front of the room accommodates a piano, a poduno or teacher's desk, a director's stand, and audio-visual curron at

Central Junor High School, in West Melhourne Harda, has a music voom with a tiered floor and raised ceding.

"Hapid Ran Middle School has been planned with the needs of both students and the community in mind," says Michael J. Amos, director of operations for the Oak Hills I ocal School District in Ohio. The new school will include a 450-sent anditornau available for community use, and an outdoor amphilhentre and terrare



AFTER SCHOOL

"IT'S NO LONGER REALISTIC
TO BELIEVE THAT SCHOOLS
ONLY ADDRESS THE
ACADEMIC NEEDS OF
STUDENTS. IN ORDER TO
CARE FOR THE 'WHOLE'
CHILD,' EMOTIONAL, SOCIAL,
PHYSICAL, AND ACADEMIC
CONCERNS MUST BE
CONSIDERED. WE'VE
EXTENDED OPPORTUNITIES
FOR KIDS OUTSIDE OF THE
REGULAR SCHOOL DAY—
8:00 A.M. TO 3:00 P.M.
JUST ISN'T ENOUGH TIME!"

—Susua L. Mann, Principal, Meridian Middle School: Buffalo Grave, Illinois

AFTER SCHOOL

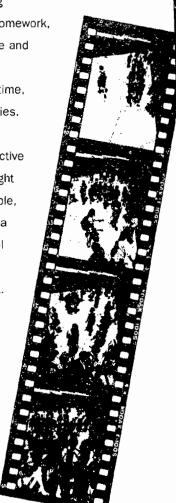
HOMEWORK CLUB INTRAMURALS AFTER-SCHOOL PROGRAM M/T/W/TH/F 3:15-4:30

"As soon as the dismissal hell rings in a middle school, the halls fill with hundreds of children screaming us they stan lockers, bump backpacks and bonnee against each other like free-bonding electrons in a supercollider. The physics of normal human interaction gives way in a rading mass of 11- to 15-year-olds entangled in a lond, confused and tribal frenzy."

—CAROLLYN JAMES, TEACHER, F.C. HAMMOND MIDDLE SCHOOL: ALEXANDRIA, VIRGINIA! The final bell or announcement at the end of the school day has long signaled a mad dash to the locker, a quick gathering of books and homework, and a rush out the door and onto the right bus. Today, however, more and more students are lingering beyond the last class—staying for study groups and homework clubs, after-school programs, extra computer time, intramurals, and a host of extracurricular academic and social activities.

Teachers and administrators agree that if a school stays open and active long after the end of the school day, then students are getting the right message about school in general—that it's a place to feel comfortable, secure, and at home; a place to learn and to help others learn; and a place to socialize, play, work, plan, and dream. "With our after-school program and our extended childcare program, we have kids all over this school every afternoon—until at least 6:00 p.m.," says Susan L. Mann, principal of Meridian Middle School in Buffalo Grove, Illinois. "The students learn new hobbies and skills, play in the gym, study, or just gather in the media center to read or play gin rummy. They love being here—we have all kinds of activities and events, and the school really takes on its own sense of community."

"Young adolescents do not want to be left to their own devices," reports the Carnegie Council on Adolescent Development in its 1992 report, A Matter of Time: Risk and Opportunity in the



NonSchool Hours. The report cites a 1988 National Education Longitudinal Study that surveyed 25,000 eighth-grade students, finding that 27 percent of the students spent two or more hours at home alone after school. Students from lower income families were likely to be left alone for three or more hours.

Meridian Middle School's "After-School Program" is a lively series of clubs, classes, and recreational activities. Students register for classes that interest them; late bases help participants with transportation home.

"In national surveys and focus groups," the Carnegie report continues, "America's youth have given voice to a serious longing. They want more regular contact with adults who care about and respect them, more opportunities to contribute to their communities, protection from the hazards of drugs, violence, and gangs, and greater access to constructive and attractive alternatives to

By mid-afternoon, most middle school students still have plenty of energy, but are often easily distracted after a full day of demanding classes. The most successful after-school programs work with this energy level in mind-offering recreational sports and games and hands on, exploratory-type activities as well as tutoring and study sessions. Some programs-such as Meridian Middle School's "After School Program," offer a number of clubs and activities--ranging from

the loneliness that so many now experience."2

¹From When Johnay Won't Learn 'The Washington Post Liducation Review, April 5, 1998, Page 1.

^{* 1} Matter of Time: Risk and Opportunity in the NonSchool Hours. Report of the Task Force on Youth Development and Community Programs, Carnegie Corporation of New York, Carnegie Conneil on Adolescent Development 1992, Page 30-11.

AFTER SCHOOL

"Why is the period of early adolescence so critically inportant? With the exception of infancy, no time of life compresses more physical, intellectual, social, emotional, and moral development into so brief a span... Young adolescents are preparing to become adults, and experiences in early adolescence help shape what kind of adults they will be."

--- A MATTER OF TIME: RISK AND OPPORTUNITY IN THE NONSCHOOL HOURS 3 "Paper Airplane Building," "TV Video Production," and "Gross Cooking" to "Composing Music on Computers," "Badminton," and "Gym Games"—so that students can sign up for the sessions that interest them the most.

At Angola Middle School in Angola, Indiana, even the last hour of class begins to take on an "after-school" feel, with exploratory classes offered twice a week. "The students have study hall three days a week at the end of the day, and twice a week we offer 'mini-courses,' says Language Arts teacher Scott Hottell. "Each mini-course runs six week: and they can choose what they're most interested in. There are a lot of games—kickball, dodgeball, frisbee golf—even hallway bowling. We've also taught hunter safety, how to tie flies for fishing, Native American games, how to make bird feeders, choral music—all kinds of things. The teachers enjoy it, because if they have an interest, they can share it with the kids. It's a great way to end the day, and the kids have a lot of fun."

At the new Crestview Middle School in Huntington, Indiana, much of the after-school program is geared toward sports and recreation. "We've expanded our intramural program because we want all kids to be able to take part," says Dr. Max F. Spaulding, superintendent of Huntington County Community School Corporation. "We offer basketball, volleyball, wrestling, weight training—we think it's important to emphasize physical activity for students. We also want to make this part of their day enjoyable—school may be over, but their parents may not be home yet. And we think it's very important to encourage kids to socialize—intramurals give them an opportunity to have fun together, instead of going home and sitting in front of the TV."

Spaulding points to the design of school buildings as being instrumental in facilitating successful after-school programs, as well as after-hours community events. "Crestview Middle School has been designed so that academic areas can be secured while students and the community can access the gymnasiums and other public areas. If the students are out playing soccer or other games, they can access the restrooms and

· . .

112

water fountains. We want the school to be used after hours, and we want the community to use the school—it's their investment. This school will probably be open from 7:00 in the morning until 10:00 or 11:00 at night—every day."

While many students head straight for the basketball courts or soccer fields after school, other students opt for quiet time toward the end of the day—preferring study halls, homework clubs, computer sessions, visits to the media center, or one-on-one interaction with their teachers. Just as well-equipped gymnasiums and playing fields provide students with a venue for sports and recreation that they won't find at home, classrooms, labs, and media centers offer the resources many children seek for researching reports, catching up on homework, or completing assignments. Some are simply drawn to quiet areas that they may not find at home.

"My happiest time of day is after school, when the kids come back in for extra help." says Natasha Heny, an eighth-grade English teacher at Edgar Allan Poe Middle School in Annandale, Virginia. "If I didn't have a comfortable space, they wouldn't want to come. I look around and see all of the students staying to study after school and I



A Matter of Fine Rick and Opportunity in the Non-School Hours Report of the Lask Force on Youth Development and Community Programs, Carnegic Corporation of New York, Carnego Council on Adolescem Development 1992, Page 9 "By any standards. America's young adolescents have a great deal of discretionary time. Much of it is austructured, ausupervised, and auproductive for the young person. Only 60 percent of adolescents' waking hours are committed to such essentials as school, howework, enting, chores, or puid employment, while fully 40 percent are discretionary."

—A MATTER OF TIME: RISK AND OPPORTUNITY IN THE NONSCHOOL HOURS⁴

"Our new intermediate school has enabled us to start a latelikey program, called the Growing, Learning, and Developing Center, or GLAD. The way the building is designed allows the after-school students to access the gym, cafetorium, art room, music room, stage, and media center without interrupting the teachers and the vastodiums in the avademic wing."

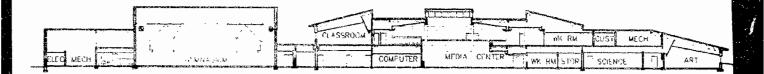
—Huuk Smith, Superintendent, Celina City Schools, Ohio

* Had Page 10

113

119

MERIDIAN MIDDLE SCHOOL; BUFFALO GROVE, ILLINOIS

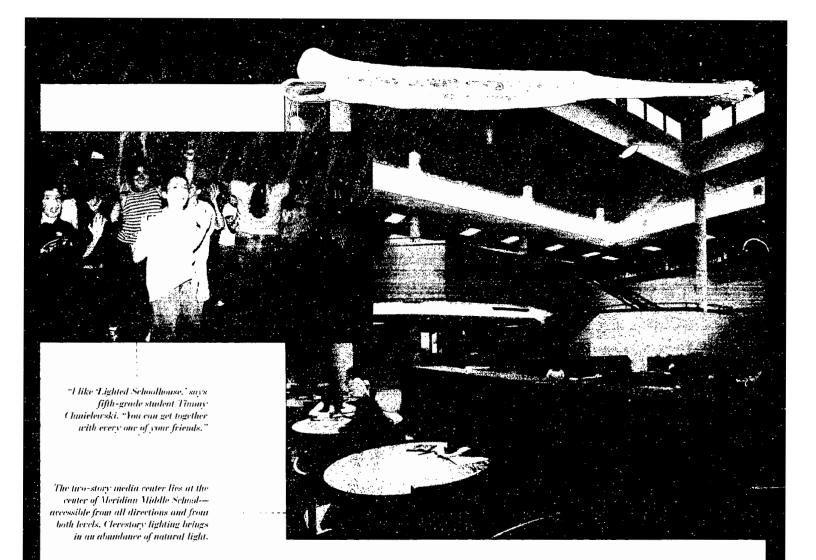


From early in the morning, when "Sniffles" and "Ozzie"—the school parakeets—greet students and teachers, until well into the evening, Meridian Middle School is bustling with activity. The school has several celebrated after-school programs—including an award-winning recreational program

called "Lighted Schoolhouse"—that have become models for other districts.

While Sniffles and Ozzie may spend more time in the school than anyone else, they are joined by many students and teachers long after the regular day of classes is over. "We have an extended afternoon childcare program called 'Club Meridian,'" says Principal Susan L. Mann, "It's administered by the school and stays open until 0:00 p.m. We also have our 'After-School Program,' which is a series of courses that the students can sign up for. Some of the sessions are centered around

Veridian Viddle Schaal is campased of hirick supported by a steel frame, and is designed to allow for future expansion and plants. The designed to allow for future expansion and periphility. The building loss a sloped, shingled rook complements the supported by a steel frame, and is designed to allow for future expansion and periphility. The building loss a sloped, shingled rook complements the surrounding residential neighborhoad.



hobbies and games, such as chess or building model rockets. Others are more academic—computer skills, the homework club, or our news writers club. Many of the kids sign up for the sports-type activities, so we also have gyrn games, floor hockey, basketball—even line dancing."

The design of Meridian Middle School casily accommodates the extended use, including access by parents, volunteers, and the community after hours. Built on two levels, the 80,000-square-foot school houses 650 students in grades five and six. V carpeted, open area with built-in risers overlooks the media center; and often hosts plays, storytelling activities, and independent reading for the students, "I find the upstairs riser area very useful."

says Sherrie Commins, a fifth-grade teacher. "It's great for big groups, but it's also nice just to send kids out to work on their own. They love it—they think going out to the risers is the most exciting thing."

Other components of the school that support after-hours use include a large, multi-purpose room often used by parents and volunteers, "We work in partnership with parents," says Mann, "We have over 300 parents signed up to do different things."

Energy-efficient design also facilitates extended use of the school. A multi-staged chilling system optimizes energy consumption and yields low utility costs. A weather station, with wind-speed and direction sensing and

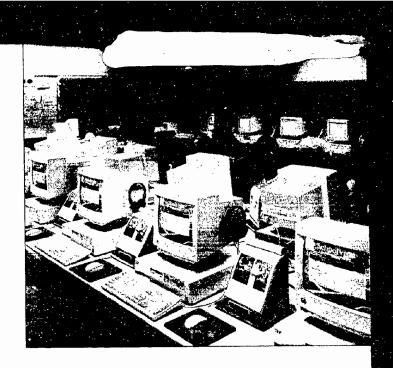
temperature sensing, determines the amount of heating required at any given time and the optimum time to start the heating and cooling system.

For the students, the after-school programs are clearly a highlight, "We hold Lighted Schoolhouse" one evening a month," says Mann, "We bring in a DJ and play age-appropriate music; and have dancing, games, videos, and snacks. The kids love it." The "After-School Program," with its variety of clubs and classes, has also been a hit with the students; "When I go home, all I do is turn on the TV," says Jeremy Rose, a sixth-grade student, "But the after-school classes give me something to do and I enjoy it."

TER SCHOOL

ANGUAGE ART

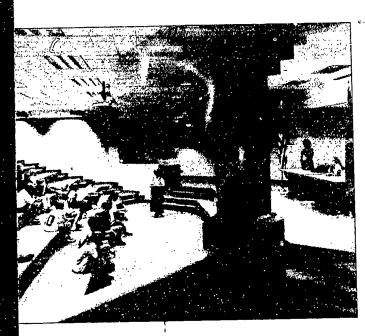
"At Crestriew Middle School, we incorporated east stone symbols—representing aspects of our educational program—across the front of the stage," says Dr. Max I. Spaulding, superintendent of Huntington County Community School Corporation in Indiana, "In addition to the traditional academics such as math and language arts, we included our exploratory focus and physical education, because we wanted the symbols to be reflective of all of the areas of our middle school program."







Television studios in many middle schools are typically in use before and after school for studentsponsored productions. Computer labs are often open to students and teachers for afterschool instruction and keyboarding practice.



Lecture halls and large-group instruction areas often host afterschool meetings, debate and drama clubs, and awards ceremonies. ALTER LEAVING YOUR OLD
BUILDING AND WALKING
NEW ONE FOR THE HIRST

"WE GOT GOOSEBUMPS.

"WE HAD WAITED SO LONG WORKED VERY HARD TOWA WAS THE CULMINATION OF WORK AND DETERMINATION BUMPS WOULD BE ACCURA

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"IT'S JUST A DIFFERENT MEEN THERE, AND NOW TO

"WE HAD SO MUCH PRIDE

"WHEN WE WALKED IN TH WE WERE SPEECHLESS. A UNUSUAL FOR US TO BE S

—TEACHERS AT SOUTH V SCHOOL IN CLINTON. IND SCHOOL OPENED IN 1995

APPENDIX

SHAPING THE FUTURE

Middle Schools

A.I. Root Middle School

Medina, Ohio

The Builders Exchange, 1996 Craftsmanship Award:

American School & University, 1996 Architectural Portfolio

Angola Middle School pgs 17, 19, 40, 43, 48-54, 89, Angola, Indiana 103, 118
American School & University, 1998 Architectural Portfolio

Avondale Middle School pgs 60, 99, 100, 103, 106-109 Rochester Hills, Michigan American School & University Educational Interiors Showcase, 1996 Honorable Mention

Bloomington Junior High School pgs 97, 110
Bloomington, Illinois
American Association of School Administrators, 1991
Exhibition of School Architecture; Council of Educational Facility Planners International, 1992 Exhibition of School Architecture

Celina Intermediate School pgs 43. 119 Celina, Ohio

Central Junior High School
West Melbourne, Florida 72, 73, 112
American School & University, 1997 Architectural Portfolio:
American Association of School Administrators, National
School Board Association, and Association of School
Business Officials International, 1998 Exhibitions of School
Architecture

Chester Middle School pgs 30, 31, 34 Chester, Virginia

Crestview Middle School pgs 55, 73, 118, 119, 122 Huntington, Indiana

Discovery Middle School

Granger, Indiana

92-94, 100

American Association of School Administrators.

1997 Special Citation for Architectural Design;
International Masonry Institute, 1997 Golden Trowel Award;

Council of Educational Facility Planners International, 1997

Exhibition of School Architecture: American Association of
School Administrators, National School Board Association
and Association of School Business Officials International,
1997 Exhibitions of School Architecture: The American
School Board Journal, 1998 Learning by Design

Edgar Allan Poe Middle School pgs 39-43, 46, 73, 75-83, Annandale, Virginia 86, 89-91, 96, 97, 104, 119 (in association with Pierce Architecture)

Hamilton Southeastern Junior High School pgs 24, 25, Fishers, Indiana 55, 84, 112

American Institute of Architects, 1994 Biennial Award

Citation; Outstanding Concrete Achievement Award, 1994;

American School & University, 1994 Architectural Portfolio;

Council of Educational Facility Planners International, 1994

Exhibition of School Architecture; American Association of School Administrators and National School Board

Association, 1995 Exhibitions of Architecture

Lincoln Middle School pgs 14-16, 20-23, 28, 29, 36, 47. Indianapolis, Indiana 54, 55, 61, 71, 84, 96, 102, 110 American School & University, 1998 Educational Interiors Showcase; American School & University, 1998 Architectural Portfolio

SHAPING THE FUTURE

Middle Schools

McNicol Middle School Hollywood, Florida

Meridian Middle School pgs 13, 36, 37, 58, 64, 100, 101, Buffalo Grove, Illinois 110, 115-118, 120, 121 American Association of School Administrators and National School Board Association, 1995 Exhibitions of School Architecture: American School & University, 1995 Architectural Portfolio

back cover

North Oldham Middle School pgs 35, 36, 61, 89, 102 Goshen, Kentucky (in association with Scott/Klausing & Company, Inc.) American School & University, 1997 Architectural Portfolio

Oak Hill Junior/Senior High School pg 95 Converse, Indiana

Rapid Run Middle School pg 112, back cover Cincinnati, Ohio (in association with Cole + Russell Architects)

Reynoldsburg Junior High School pgs 54. 55 Reynoldsburg, Ohio

Robert W. Stanton Middle School pgs 29, 59
Kent, Ohio
(in association with Fuller Design Group)

 South Vermillion Middle School
 pgs 16, 17, 34, 35, 64,

 Clinton, Indiana
 70, 71, 95, 101, 123

Space Coast Junior High School pgs 69, 72 Port St. Johns, Florida **Sunman-Dearborn Middle School** pgs 96, 97 St. Leon, Indiana American School & University, 1988 Architectural Portfolio

Thomas A. Edison Middle School pgs 66, 67, 94, 95, South Bend, Indiana 112 (in association with DLM Architects, Inc.)

The American School Board Journal, 1996 Learning by Design; Michiana Area Construction Industry Advancement Fund, 1994 Educational Building Award for Excellence in Construction

Wakefield Middle School back cover Raleigh, North Carolina (in association with Cherry Huffman Architects)

Williamsburg Middle/High School pgs 19, 24, 36, Williamsburg, Ohio 110
American School & University, 1998 Architectural Portfolio

Wilson Middle School pgs 36, 37, 42, 65, 96, 112 Muncie, Indiana The American School Board Journal, 1996 Learning by Design

Woodridge Middle School pgs 28-30, 32, 33, 54, 55
Peninsula, Ohio
(in association with Fuller Design Group)
American School & University, 1997 Architectural Portfolio

SHAPING THE FUTURE

Middle Schools

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Lockers and t-shirt - pages 18, 19, and 71: Joseph Romeo Photography

Stock market, roller coaster. Great Wall of China pages 41, 46, and 47:

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A.I. Root Middle School students - pages 44 and 45; courtesy of William Nettles, A.I. Root Middle School

Mettles, A.I. Noot Wilde School

Angola Middle School students page 53: courtesy of Angola Middle School

Andrew Satten cooking photos - page 83: courtesy of Andrey. Satten and

family. Edgar Allan Poe Middle School

A special thank you to the following students of Edgar Alian Poe Middle

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Productions for the chapter title pages:

Chapter 1 DeAundra Heatley, Grade 6

Chapter 2 Michael Frost, Grade 8

Chapter 3 Shelley Selim, Grade 8

Chapter 4 Claudia Portillo, Grade 7

Chapter 5 A.J. Hill, Grade 7

Chapter 6 Sothary Heang, Grade 7

Chapter 7 Keith Nolan, Grade 8

Chapter 8 Adam Pruitt, Grade 7

Appendix Eric Shinn, Grade 7

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Middle school students from around the country assisted in the development of Shaping Me Fature: Middle Schools by takure part in Joens groups and rangitable discussions to share their river on the importance of the school environment. Students at Edgar Allia Pac Middle School shain a above in Annual de Virginia, also helped by lending their modeling expertise. The results appear inside on each of the chapter title pages.

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"MIDDLE SCHOOL BUILDINGS MUST BE AS FUNCTIONAL AS POSSIBLE, AND THEY MUST ADDRESS THE VARIED NEEDS OF THE STUDENTS AND THE COMMUNITY. IT'S IMPORTANT TO START EARLY IN TERMS OF PLANNING AND INVOLVE THE COMMUNITY."

—Michael J. Amos, Director of Operations Oak Hills Local School District. Ohio

"THESE STUDENTS HAVEN'T DISCOVERED WHO THEY ARE YET—THEY'RE CAUGHT IN THE MIDDLE BETWEEN CHILDHOOD AND ADOLESCENCE. THE BUILDING MUST TAKE INTO ACCOUNT THE NEEDS OF THE STUDENTS—OUR NEW MCNICOL MIDDLE SCHOOL NOT ONLY PROVIDES GREATER ACADEMIC OPPORTUNITIES, IT HAS GIVEN OUR STUDENTS GREATER SELF-ESTEEM AND PRIDE. THEY HAVE A NEW LEASE ON LIFE."

-Sumuel 1. Gregg. Sr. Arga Director Broward County Schools, Harida ?

"IT'S NECESSARY TO KNOW WHAT CURRICULUM TRENDS
THE SYSTEM ENVISIONS AND EMBRACES WHEN PLANNING.
DESIGNING, AND BUILDING A MIDDLE SCHOOL. WE START
THIS PROCESS BY INVOLVING TEACHERS AND CURRICULUM
SPECIALISTS IN THE DEVELOPMENT OF THE EDUCATIONAL
SPECIALISTS IN THE DEVELOPMENT OF THE EDUCATIONAL
SPECIFICATIONS, AND CARRY IT THROUGH TO TRAINING
TEACHERS AND SCHOOL STAFF HOW TO USE A BUILDING ONCE
IT'S COMPLETE. WE WANT TO SUPPORT TEAMING AND INTERACTIVE EDUCATIONAL APPROACHES, BY PROVIDING THE RIGHT
KINDS OF SPACES AND TECHNOLOGY, BY GROUPING SPACES
APPROPRIATELY, AND BY BUILDING IN FLEXIBILITY."

-Pount Whitman, Supervisor of Lacility Planning. Mirke County Public School, System, North Carolina.

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12

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